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COMMUNITY-BASED RESOURCE MANAGEMENT IN CANADA: AN INVENTORY OF RESEARCH AND PROJECTS

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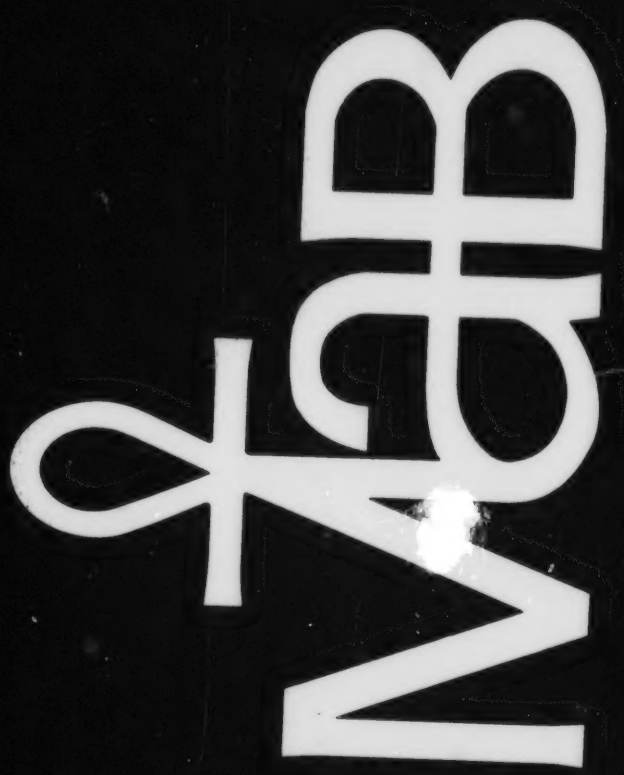

COMMUNITY-BASED RESOURCE MANAGEMENT IN CANADA: AN INVENTORY OF RESEARCH AND PROJECTS

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Prepared by the Unesco Canada/MAB
Working Group on the Human Ecology of Coastal Areas

CANADA/MAB
CANADIAN COMMISSION FOR UNESCO

REPORT 21

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PREFACE

Many Canadians depend on fish and wildlife resources for their livelihood. A majority of primary resource users are geographically isolated from the mainstream of our development-oriented, urbanized industrial and commercial society. Many also believe they are politically isolated from the decisions which emanate from this mainstream society, particularly decisions that affect access to and exploitation of the natural resource base. The result has been increasing conflicts between large and small producers and between national and local interests. In addition, management frameworks shaped by international agreements and characterized by reliance on overly-simplistic bioeconomic models have contributed to the erosion of control over resource use by local peoples.

The unprecedented expansion of state participation in designing, monitoring and enforcing resource management frameworks has perhaps been essential, given the complex circumstances of and threats to sustainable utilization. But the monetary cost is high, and some would argue that the social costs are even higher. Resource scientists, administrators and their political masters are beginning to take these concerns into account. The voices of native peoples and others dependent on resource-based economies are becoming stronger in the dialogue to seek new management arrangements. Traditional knowledge, community-based management and co-management are the terms being introduced into the vocabulary of natural resource and environmental decision-making. Within Canada there are hundreds of communities, especially in the North and along the coasts, where the debate translates directly into concern for sustainable livelihoods.

The issue of human-environment interactions is a central concern of the Unesco Man and the Biosphere (MAB) Program, which was established in 1971 as a worldwide program of international scientific cooperation. The Unesco/MAB Program, which Canada joined in 1974, aims to help develop scientific knowledge with a view to the rational management and conservation of natural resources. There is a strong interest in the integration of natural and social sciences, and in their links with technology. Hence, understanding how communities rich in traditional knowledge about resources enhance traditional roles or take on new ones is a topic ideally suited for MAB. Until recently, the MAB Program was comprised of 14 separate themes, several of which related to marine and coastal use. Canada has advocated that marine and coastal themes be given prominence in the international MAB Program, largely because these elements feature so importantly in our own economy and culture.

In Canada, the MAB Program is administered by the Canadian Commission for Unesco, guided by a 15-member national committee. At a meeting held in Stanley House in 1983, the Unesco Canada/MAB Committee agreed to establish a Working Group on the Human Ecology of Coastal Areas, assisted financially by a small grant from the federal Department of Fisheries and Oceans. The central theme to be explored was the human dimension of resource use such as fisheries, taking into account the regional context, for example, coastal land and water management.

The Working Group is comprised of social scientists and ecologists interested in traditional knowledge based on decades or even centuries of direct, season-by-season contact with a specific resource base. The main objective of the Working Group is to gain a better understanding of how local communities and resource users can provide advice to the government and/or otherwise influence resource management activities (e.g. data collection, monitoring, enforcement).

At two workshops attended by both natural and social scientists, views were exchanged about traditional and local-level management. Despite the volume of past research, the available

information base was found to be lacking and discussions tended to focus on concepts, without being fully supported by case studies.

The idea for this compilation arose during the first workshop convened in April 1984 in Halifax to explore concepts of community-based management. There were representatives from the Atlantic, Arctic and Great Lakes regions. An awareness of the need for better communication regarding work underway in the different parts of the country quickly emerged. It was decided that a systematic identification of relevant studies in progress or recently completed would provide assistance to those interested in the theme.

It is hoped that this report will meet initial requirements to make both researchers and decision-makers aware of the volume of work now underway. One hundred and fifteen studies are listed. In some instances, coverage has been extended beyond coastal areas in order to include closely related material. Certainly there is room for further expansion and subsequent editions since this work, in large measure, represents the personal networks of the individual contributors and the editors.

Direct follow-up to this compilation will depend on the continued interest of Unesco Canada/MAB at a time when financial resources are scarce and additional priorities have been identified. Clearly there is scope for developing a state of the art synthesis based on the knowledge generated by overviews and the cases. It would be valuable to expand the existing inventory, for it is incomplete in geographical coverage and in other ways.

Evidence obtained in the work to date suggests that decision-makers and planners can, and indeed do, incorporate community-based management within natural resource administration, as well as within some development projects. Negotiations with some native peoples' organizations have been highly significant. How much more could be done should be of concern to several governmental departments. The 1987 discussion paper, *Arctic Marine Conservation Strategy*, of the Department of Fisheries and Oceans, for example, highlights the need for "shared management" approaches. By taking into account the views of those who have been largely ignored in the application of modern science to resource management, it should be possible to restore a more equitable and, ultimately, more beneficial approach to human use of the environment.

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The contributors are deeply indebted to all the researchers, government officials, resource managers and citizens' organizations who provided information for the entries in the inventory. Their assistance was invaluable. In addition, individual contributors wish to make the following acknowledgements: F. Berkes to A. Grima, K.H. Loftus and T.H. Whillans for commenting on an earlier draft and to the Max Bell Foundation and the Social Science and Humanities Research Council of Canada (SSHRCC) for their support of his review of the issues in the Great Lakes region; Y. Breton to SSHRCC and the Formation de chercheurs et aide à la recherche (FCAR) for their research support; D. DeLancey and T. Andrews to M. Asch and K. Irving for their assistance in compiling their section, and S. Matthews and D. Grant-Francis for their assistance with entries; H. Feit to SSHRCC for its support of research which included reviews of local management systems for land and wildlife; C. Lamson to J. Reade for continuous research support services; and E. Pinkerton to R. Travers and E. Karlson.

The editors are grateful to the staff at the School for Resource and Environmental Studies for its assistance in preparing this report. We thank S. MacDonald for her administrative expertise and T. Mombourquette for typing the manuscript and serving as editorial assistant. The editors also wish to thank the contributors for their willingness to undertake such a demanding task and for their ability to provide thorough coverage of their sections. It has been very rewarding to work with them.

The editors and the contributors apologize for the omission of any relevant projects, publications, local initiatives, scholars or program managers from this inventory. We recognize that this report is not exhaustive, but hope that it will be viewed as a worthwhile starting point, and that readers will bring additional information on community-based resource management in Canada to our attention.

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EXECUTIVE SUMMARY

In recent years, there has been increasing interest in community-based resource management regimes as an alternative to state management systems. Community-based regimes involve local communities in resource decision-making either as autonomous managers or in a variety of relationships of shared responsibility with state agencies. In coastal regions, local-level decision-making may involve a wide range of management issues, including regional development planning, enhancement and conservation, resource allocation, and the environmental and socio-economic assessment of development projects. Canada, a nation with immense expanses of coastline along the Pacific, Atlantic and Arctic oceans as well as the Great Lakes and other inland waters, provides diverse settings within which community-based systems might be effectively utilized to manage coastal resources.

At present, however, little information is readily available about the current existence and operation of community-based resource management in coastal Canada. This report seeks to fill the need for an extensive survey of the current status of activity in this area. Undertaken as a project of the Working Group on the Human Ecology of Coastal Areas of the Canada Man and the Biosphere (MAB) Program of Unesco, it represents an effort to provide useful - and usable - information on this topic by compiling information about community-based resource management research and projects for six areas: Nova Scotia, Coastal Quebec, James Bay, Great Lakes/Ontario, Coastal British Columbia, and Denendeh (Western Arctic).

The authors of the six areal sections have provided: (1) an overview of key resource issues; (2) a descriptive inventory of studies and projects; (3) a bibliography; and (4) a list of scholars, institutes, organizations and periodicals. The descriptive inventory, which comprises part 2 of each section, is arranged according to a consistent order of categories (including resource enhancement and conservation, resource allocation, and conflict resolution). The inventories include 115 entries. The uniform format has been designed to enhance the reader's ability to discern similarities amongst sections and thus to utilize the information in a comparative context.

The report also includes a Preface describing the Canadian Man and the Biosphere (MAB) Program, sponsor of the project, and an Introduction, providing a conceptual overview of community-based resource management and a discussion of the development of this report. As well, the Introduction describes the report's format in detail and suggests various ways in which readers may utilize the material. Finally, an Index is included, in which each region's inventory entries are cross-referenced by topic category with all other regions. Four maps are also provided.

The editors and contributors hope that this report will serve as a useful document for all those interested in community-based resource management in Canada. Although the information contained is clearly not exhaustive, it is hoped that future work in Canada will broaden its coverage. It is also hoped that this document will encourage the publication of similar compilations of information on other countries, and thus increase our understanding of community-based resource management systems within the international context.

INTRODUCTION

Renewable resource management is at a crossroads. Returns to primary resource harvesters, secondary processors and national economies have not kept pace with the rising costs associated with resource management. Research, development, administration and enforcement costs often outweigh the net benefits derived from resource harvesting. In some cases, the accuracy of scientific advice is being challenged by resource users, while the logic of applying regulatory remedies to serve both socio-economic and conservation objectives is also being questioned. Alternative management approaches are being sought, often by groups with disparate interests and motivations.

In recent years, there has been increasing interest in community-based resource management regimes as an alternative to state management systems. Community-based regimes involve local communities in resource decision-making either as autonomous managers or in a variety of relationships of shared responsibility with state agencies. In coastal regions, local-level decision-making may involve a wide range of management issues, including regional development planning, enhancement and conservation, resource allocation, and the environmental and socio-economic assessment of development projects. Canada, a nation with immense expanses of coastline along the Pacific, Atlantic and Arctic oceans as well as the Great Lakes and other inland waters, provides diverse settings within which community-based systems might be effectively utilized to manage coastal resources.

In 1984 and 1986, the Working Group on the Human Ecology of Coastal Areas of the Canada Man and the Biosphere (MAB) Program of Unesco held workshops at Dalhousie University in Halifax, Nova Scotia, to explore the concept of community-based resource management and to consider how such systems operated. The Working Group agreed that such systems existed in Canada, but that documentation pertaining to them was limited. Central to the Working Group's discussion was group member Fikret Berkes' (1981) conceptualization that:

> In its pure form, [self-regulation] is to leave all management power and responsibility with the local community.... Management imposed by external agencies is the opposite approach. Somewhere between these two extreme forms are numerous types of hybrid approaches characterized by different distributions of authority and control, degrees of participation in scientific research, and responsibility for taking decisions respecting allocation, use and enforcement (Figure 1):

FIGURE 1. CONTINUUM OF MANAGEMENT APPROACHES

self-regulation _____ hybrid approaches _____ externally imposed regulation

In reality, sharp distinctions frequently do not exist between local-level (community-based) resource management and externally imposed (governmental) resource management. Few, if any, examples of either extreme form exist because most communities in the world today are not autonomous economic or social units isolated from larger national and international systems. One approach that has received increasing attention in recent years is cooperative or co-management in which communities and/or native bands share management authority with other governmental units (Pinkerton, 1989).

Indeed, many of the clearest cases of local-level decision-making in resource-based communities are to be found amongst native peoples. This suggests that native peoples may be able to make strong arguments for self-regulation based on aboriginal and treaty rights and native claims settlements, whereas other groups must rely on other, less well-defined rights. The new Canadian Charter of Rights (1984) may, however, become a vehicle for testing local versus state management rights with respect to quota-setting and/or harvesting restrictions based on geographic boundaries. Fishermen, for example, are challenging certain regulations, arguing that mobility rights - as guaranteed by the Charter of Rights - may be contravened by regulations that restrict access to resources based on residence or sector criteria.

The MAB Working Group became increasingly aware that its understanding of the issue was severely limited by the fact that there existed no systematic inventory of community-based resource management projects and studies in Canada. It concluded that a state of the art review was a vital prerequisite for understanding the nature and operation of community-based resource management as it exists in Canada today. This report is the result of the group's effort to bring together current information within the Canadian context. While focussing exclusively on Canada, the Working Group hopes that the report will be useful for comparative purposes since other regions and nations are also exploring alternatives to state-controlled resource management.

This report compiles information on community-based resource management research and projects for six areas: Nova Scotia, Coastal Quebec, James Bay, Great Lakes/Ontario, Coastal British Columbia, and Denendeh (Western Arctic). Although the Working Group originally had envisaged full coverage of Canadian coastal areas, it was not possible to achieve this goal. Completing each section was a major task; we regret that two potential contributors (for general sections on the Arctic and on Newfoundland) were unable to complete their work. Compilation of material on these areas, as well as on New Brunswick and Prince Edward Island, will require additional work.

Although coverage is less than complete, it is nonetheless quite extensive. The authors of the six sections have provided: (1) an overview of key resource issues; (2) a descriptive inventory of studies and projects; (3) a bibliography; and (4) a list of scholars, institutes, organizations and periodicals. The editors and contributors have endeavoured to arrange the information in a format appropriate for several groups of users: those who read the document to gain general knowledge of the topic; those who use it for interregional comparisons; and those who use it as a sourcebook for further explorations.

In the descriptive inventory, the entries are organized according to a set of topic categories that are consistent within the report. These categories and their abbreviations are:

regional development planning (rdp)
resource/environmental enhancement and conservation (rec)
environmental assessment (ea)
aboriginal land and resource agreements (aa)
resource allocation (ra)
conflict and conflict resolution (ccr)
local-level resource use and management (ll)
external factors influencing local-level management (ef)

The authors have entered each inventory item in the category of its primary relevance. They have also added, in brackets following the title, the abbreviation of other categories of secondary relevance. For example, in Section I on Nova Scotia, C. Fraser's study entitled "Groundfish Management by Property Rights" is entered under the category "resource allocation." It also has (ef) following the entry title to indicate to the reader that the entry is also relevant to "external factors influencing local-level management." The Index at the end of the report is arranged by topic categories to permit access to material by category. This

referencing procedure recognizes the interrelationship between topic categories and also facilitates comparisons between regions.

The report provides the names and addresses of contact persons for inventory entries and lists of scholars and project managers in this field to assist readers in locating further information. The bibliographies provide extensive reference material as well.

This report is designed to be a working document, one that will be useful to all those interested in community-based resource management in Canada. Although the information contained herein is not exhaustive, it is hoped that future work in Canada will broaden its coverage. It is also hoped that this document will encourage the publication of similar compilations of information on other countries, and thus increase our understanding of community-based resource management within the international context.

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Canada
Federal Capital
Provincial Capital
BAFFIN BAY
DAVIS STRAIT
HUDSON BAY
Hudson Strait
James Bay
PACIFIC OCEAN
ATLANTIC OCEAN
UNITED STATES OF AMERICA
Lake Superior
Lake Michigan
Lake Huron
Lake Ontario
Lake Erie
Missouri River

SECTION I

OCEAN RESOURCES AND COASTAL COMMUNITIES: NOVA SCOTIA

by

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1. OCEAN AND COASTAL RESOURCE MANAGEMENT ISSUES IN NOVA SCOTIA: AN OVERVIEW

Coastal and ocean resources are the cornerstone of the Nova Scotia economy. Historically, the fisheries, shipping and tourism dominated coastal development planning, but in recent years, prospects of developing offshore hydrocarbon resources and harnessing the energy of Fundy's tides have increased the number of potential conflicts among ocean users and coastal residents. Resource management conflicts have also increased with the expansion of ocean use. Conflicts are rooted in competition for access rights to scarce resources and for access to key spatial areas.

The British North American Act (1867) vested authority in the federal government to manage ocean resources, and from the earliest days of Confederation until the 1970s, the legitimacy of this authority remained essentially intact and unchallenged. However, a number of important developments have altered public and resource user attitudes about "traditional" resource management objectives and approaches, and about policy and decision-making procedures. Key events which triggered changes in ocean management are summarized in the following list:

- the grounding of the tanker Arrow in Chedabucto Bay in 1970, resulting in the spilling of 11,000 tonnes of Bunker C oil into waters adjacent to the Nova Scotian coast;

- the rapid expansion and subsequent economic crisis experienced by the fishing industry in the aftermath of Canada's extension, in 1977, of exclusive fisheries jurisdiction to 200 miles, which led to the creation of the Task Force on Atlantic Fisheries (1982) and the "restructuring" of the large corporate fish processing sector and refinancing of National Sea Products Ltd. (1984);

- the 15-year international protest waged against the sealing industry, which led to the creation of the Royal Commission on Seals and the Sealing Industry in Canada (1984);

- the breakdown of Georges Bank fisheries treaty negotiations between the U.S. and Canada, and the submission of the maritime boundary question to the International Court of Justice (ICJ) at The Hague (decision rendered in October 1984);

- the construction of the Annapolis Royal tidal power demonstration project and the continuing study of the feasibility of a larger-scale facility (from economic and environmental perspectives);

- the U.S. International Trade Commission (ITC) investigation of Canadian assistance to the fishing industry (1984-1986);

- public review and assessment of the proposed Venture Development Project on the Scotian Shelf (1983);

- the Charter of Rights and Freedoms (1982), which raised questions about the extent of federal jurisdiction in resource management;

- the signing of the first federal-provincial Agreement for Commercial Aquaculture Development (1986).

One result of these events and developments has been a general broadening of public awareness of the complexities of ocean resource management. In addition, these experiences have stimulated critical examination and, in some cases, re-examination of the theoretical underpinnings of resource management and the structural and procedural aspects of resource decision-making processes.

In Nova Scotia, the legitimacy of community or local-level resource management systems as an alternative to government-dominated management frameworks has yet to be accepted, and there are no examples of a legally sanctioned, community-managed marine resource. The 1982 Task Force on Atlantic Fisheries made reference to co-management but refrained from endorsing it as a new management policy or principle:

> The idea of co-management has not been developed in detail by those who advocate it and appears for the moment to be more of a catch-phrase than a well-thought-out proposal of substance. The idea is nevertheless intriguing if it means that fishermen's organizations might take more responsibility for the development of and follow-through on policies in the harvesting sector. (See Bibliography: Task Force on Atlantic Fisheries, 1982, p. 344.)

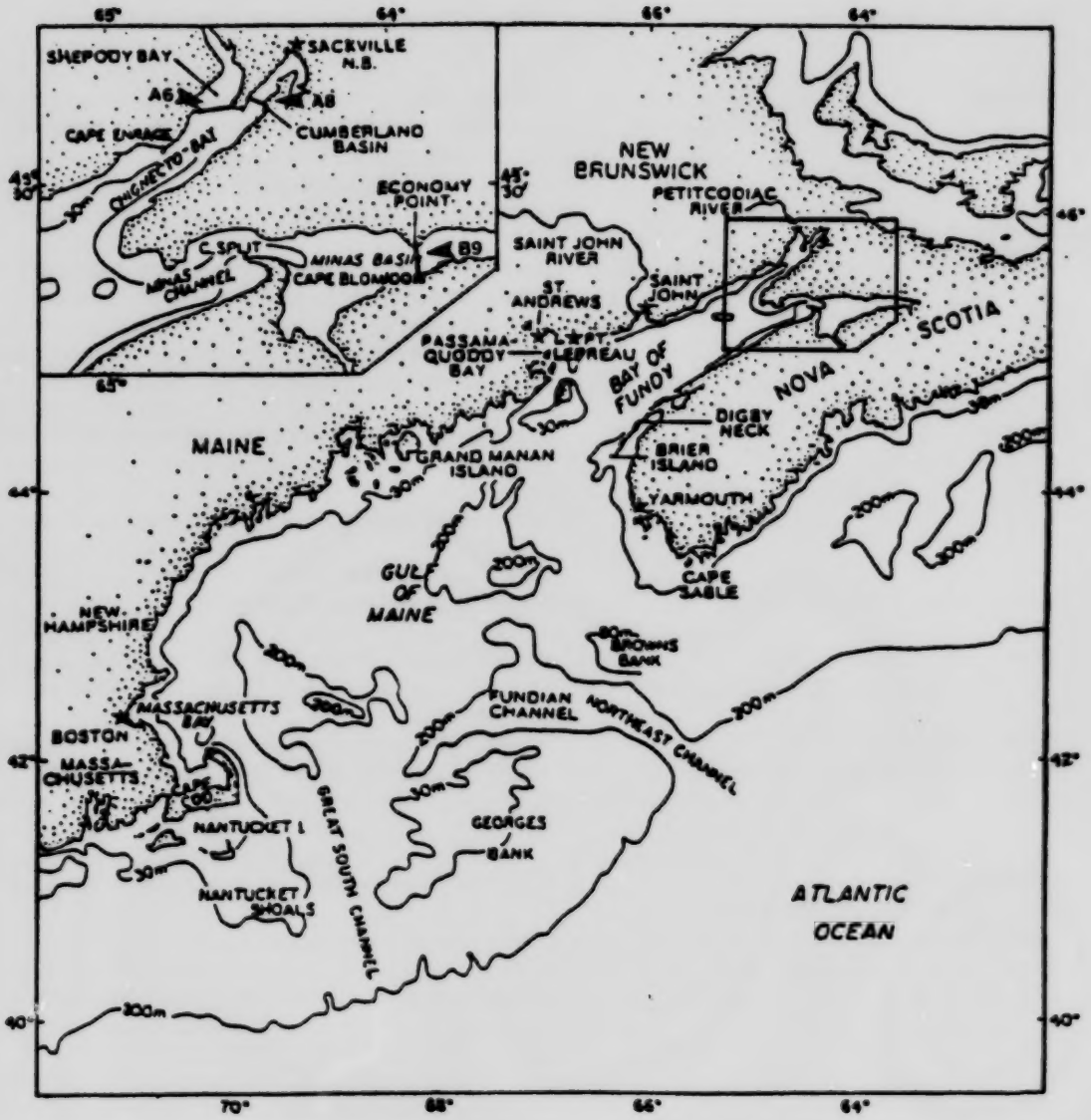
Nevertheless, there are some indications of increasing interest in co-management options. For example, the Federal Department of Fisheries and Oceans (DFO) funded J. Kearney's investigations of the District 4A lobster fishery. Note, however, that DFO has not fully endorsed his findings or recommendations. The Report of the Socio-economic Review Panel for the Venture Project (1984) highlighted the need for improved communications and continuing consultation between fishing and the offshore oil and gas industries, as well as between resource users and coastal communities. Other signs of progress may be obtained if one ranks the capability to acquire and use information related to resource use as a component of local-level management. The research initiatives undertaken by the Maritime Fishermen's Union, the Eastern Fishermen's Association and the "Awareness for Women in the Fishery" are perceived as being important milestones for those organizations.

Despite these few examples of gradually shifting attitudes toward resource management, the federal and provincial governments have been reluctant to relinquish substantive decision-making authority to local agencies and groups, relying instead on making commitments to widen participation through expanded consultation. Thus, at least in the short run, the prospects for altering existing ocean resource management frameworks in Nova Scotia remain in doubt. In the opinion of this writer, real changes will not take place until sufficient pressure is brought to bear on governments by user groups, and until failure to act is perceived as a liability to maintaining political power. Given these circumstances, Atlantic fishermen (and others) may be able to learn from the experiences of native groups, particularly northerners engaged in land claims settlements, in negotiating for management rights and control of local and regional resources.

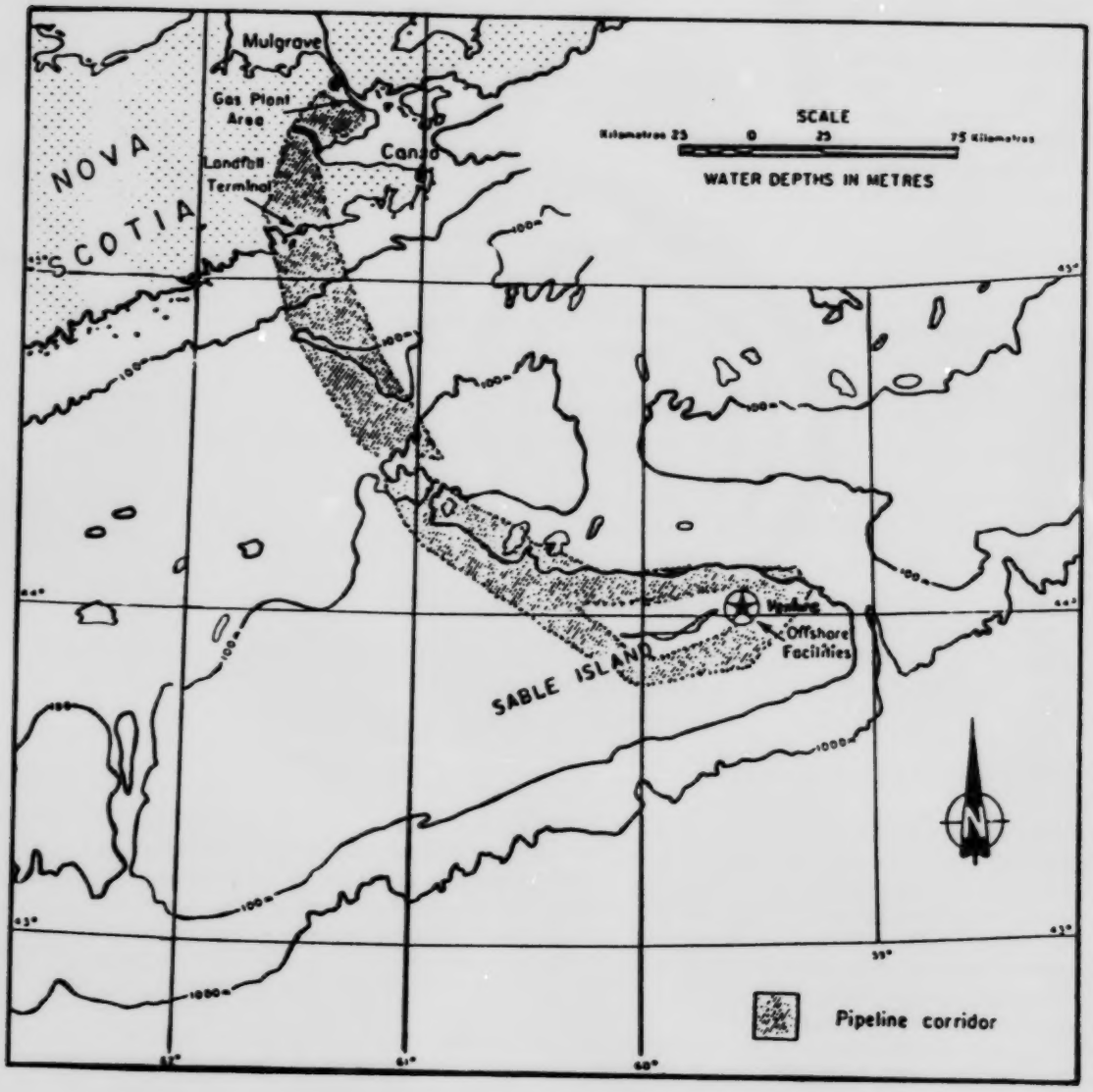
A summary of community-oriented resource management issues associated with coastal and ocean development in Nova Scotia follows (Table 1). Many of these issues have not yet been studied. Given the paucity of community or local-level resource management-oriented studies available from the region, the table also provides a list of topics for subsequent research.

TABLE 1
Ocean Resource Management Issues: Nova Scotia

Sea Use/Activity	Management Issues/Resource Use Conflicts
Fishing	- quota-setting procedures (Total Allowable Catches): scientific advice consultation with fishermen, and bureaucratic/political decision-making; - jurisdictional questions; - gear conflicts: mobile versus fixed gears; offshore versus inshore; - management structures: advisory/consultative versus decision-making authority; - monitoring procedures and regulatory enforcement (e.g. quotas, gears, minimum size restrictions); - commercial versus sport fishing: salmon, tuna; - grey and harbour seals: as competitive predators for fish; as carriers of parasites; - aquaculture: privatization of ocean space.
Tidal power (see map of Gulf of Maine and Bay of Fundy)	- environmental impacts: fishery, mammal and bird resources; habitat alteration; changes in mean tidal levels.
Offshore oil and gas (see map of Venture Project Components)	- environmental impacts of spills, discharges, debris; - spatial access restrictions; - compensation for damages, loss of access and income.
Marine parks	- potential restrictions on fishing activities.



Gulf of Maine and Bay of Fundy
Inset shows upper Bay of Fundy and potential tidal power sites



Venture Project Components

The second part of this section consists of a descriptive inventory listing twenty recent studies and projects on ocean and coastal resource management issues in Nova Scotia and the adjacent marine region. Many of the projects may be classified as belonging to several subject categories; a coding system has therefore been employed to indicate areas of overlap.

Headings	**Codes**
regional development planning	rdp
resource/environmental enhancement and conservation	rec
environmental assessment	ea
aboriginal land and resource agreements	aa
resource allocation	ra
conflict and conflict resolution	ccr
local-level resource use and management	ll
external factors influencing local-level management	ef

2. DESCRIPTIVE INVENTORY

Regional Development Planning

The Role of Women: Development and Change in the Rural Nova Scotia Economy (ef)

Geographical location: Nova Scotia

Undertaken by: Pat Connelly and Martha MacDonald

Years: 1984-1986

Contact: Gorsebrook Research Institute for Atlantic Canada Studies
Saint Mary's University
Halifax, N.S. B3H 3C3

Description:

"The *theoretical* objective is to study the changing economic role of women in a particular political economic context: the evolution of primary production in an underdeveloped region. The *practical* objective is to further our understanding of the work of rural women. To achieve these objectives we specifically aim to examine the relationships between the workplace and the household, paid and unpaid labour and the gendered division of labour within both spheres at three levels of analysis: the household, the industry and the wider political economy. This includes a consideration of the effect of government policies and worker organizations in shaping these relationships.

"In choosing resource-based communities we are seeking to understand the particular strategies which accompany changes in the economic structure from independent commodity production to corporate production and wage labour. Independent commodity production is typically family-based, with all labour unpaid and the product sold for a price. This income, plus domestic subsistence activities and non-market exchange make up the household living standard. As some aspects of production are capitalized, the wage labour jobs are created, and the household strategy for economic survival changes. Our choice of communities and our historical focus are intended to capture the nature of these changes. In addition we will examine the changes in household strategy as the economy goes through business cycles and as household members go through the life cycle. *Our major research question is: Under what conditions do women intensify their domestic labour, turn to wage labour or do both?*" (Connelly and MacDonald, 1984)

Social/Environmental Impacts of Offshore Petroleum Development in Nova Scotia (ea, ccr, ll)

Geographical location:	Nova Scotia
Undertaken by:	Robert W. (Wes) Heber (M.E.S. thesis, 1981)
Years:	1980-1981
Contact:	School for Resource and Environmental Studies Dalhousie University Halifax, N.S. B3H 3E2

Description:

This thesis examined proposals for offshore development and some of the potential social and environmental impacts associated with development for Nova Scotian communities.

Two areas - the metropolitan region of Halifax and Dartmouth, and the more rural Strait of Canso area - were considered most likely to experience changes related to accelerated offshore development. The experience of Aberdeen and the Shetland Islands was reviewed as a basis for comparison and to determine where policies and planning are most needed to mitigate potentially negative consequences.

Study of the Potential Socio-economic Effects upon the Nova Scotia Fishing Industry from Offshore Petroleum Development (ea, ccr)

Geographical location:	Nova Scotia
Undertaken by:	NORDCO Ltd. on behalf of East Coast Petroleum Operators' Association (EPOA)
Years:	1982-1983
Contact:	NORDCO Ltd. P.O. Box 8833 St. John's, Nfld. A1B 3T2

Description:

In 1982 EPOA contracted NORDCO Ltd. to examine the Nova Scotia fishery (harvesting, processing and marketing sectors) to identify and assess potential areas of interaction between the fishing and petroleum industries. Four categories of potential impacts were identified: 1) fundamental change (increasing industrialization, injections of petro-dollars, social tensions); 2) labour impacts (loss of workers to the petroleum industry, and shifts from the inshore and offshore fishery to the petroleum industry); 3) nuisance or operational problems (loss of access, sea-bed debris, navigational problems, oil spills or gas blow-outs); and 4) positive interactions (improved weather forecasting, emergency assistance). The need to establish mechanisms to reduce conflicts between the fishing and offshore industries, such as a policy advisory committee and compensation board, was emphasized.

Resource/Environmental Enhancement and Conservation

Marine Conservation Strategies: The Bay of Fundy, Gulf of Maine, Georges Bank Region (rdp)

Geographical location: Gulf of Maine

Undertaken by: Lorne Kriwoken (M.E.S. thesis, 1985)

Years: 1983-1985

Contact: School for Resource and Environmental Studies
Dalhousie University
Halifax, N.S. B3H 3E2

Description:

The Bay of Fundy, Gulf of Maine, Georges Bank (FMG) region is an ecologically unique ocean space of important economic value shared by Canada and the United States. Transboundary marine environmental problems associated with large-scale energy projects and general development threaten the biological integrity of the region. A major challenge lies in determining what would constitute an appropriate bilateral marine conservation agreement between both countries. The potential application of marine parks developed by Parks Canada and a composite system of marine parks in the Bay of Fundy were analyzed. A regional FMG network of marine protected areas was examined, in addition to the potential designation of the area as a marine biosphere reserve under the aegis of the Unesco Man and the Biosphere (MAB) Program.

Resource Allocation

Common Tragedies: A Study of Resource Access in the Bay of Fundy Herring Fisheries (ccr, ll, ef)

Geographical location: Southwest Nova Scotia

Undertaken by: John F. Kearney (M.E.S. thesis, 1983)

Years: 1980-1983

Contact: J.F. Kearney
Université Sainte-Anne
Pointe-de-l'Église, N.S. B0W 1M0

Description:

Kearney examined the dynamics of fisheries development and management in the Bay of Fundy herring fisheries, focussing primarily on access limitation questions. He began his study with the following definition of resource access: "Access is the right of a fisherman to harvest and sell fish. Rights of access were characterized by varying degrees of exclusivity and value. The exclusivity of access rights was determined by the types of fishing technology employed, the competitive and cooperative relations among fishermen, and public regulation of the fishery at both the community and government levels." Six "sub-themes" were identified: harvesting competition among fishermen; marketing competition among fishermen; fishermen cooperation in harvesting and marketing; the pervasive influence of government intervention and regulation; the role of herring processors in the allocation of resource benefits; and the social impact of the herring fisheries on coastal communities. Kearney modified his definition of resource access as

a consequence of his research and analysis to read as follows: "Access is the means through which a community (be it a nation, village, or fishermen's organization) is able to utilize fish resources."

Groundfish Management by Property Rights: The Southwest Nova Scotia Case (ef)

Geographical location: Southwest Nova Scotia

Undertaken by: Cheryl A. Fraser (M.E.S. thesis, 1985)

Years: 1983-1985

Contact: C.A. Fraser
Enterprise Allocations Coordinator
Department of Fisheries and Oceans
200 Kent St.
Ottawa, Ont. K1A OE6

Description:

The thesis examined the potential utility of introducing a system of property rights as a means of curbing over-capitalization in the inshore mobile gear groundfishery. The perceived advantage of a system of fish allocations to individual enterprises is that fishermen would be able to develop planning horizons based on their individual allocations and on the length of time allocations are in place. However, problems are anticipated during the initial stages of this management approach, particularly with respect to establishing allocations. A major problem, for example, is created by the lack of good historical landings data. Fishermen and fishery managers must work cooperatively in designing a system that is perceived as being fair, efficient, and sufficiently flexible to respond to new information and changing circumstances.

Individual Entitlements in the Tidal Fisheries (ll, ef)

Geographical location: Canada

Undertaken by: B.H. Wildsmith, K.J. Spears and W.G. Wharton for the Department of Fisheries and Oceans

Years: 1984-1985

Contact: Department of Fisheries and Oceans, Ottawa

Description:

The purpose of the study was to analyze some of the constitutional and administrative problems posed by transforming a fisheries management system based on common property views into a system based on individual entitlements. The authors note a number of critical questions: a) what legally enforceable rights does an individual entitlement holder receive under such a system?; b) for what length of time do these rights exist?; and c) how are expansions and contractions of the TAC (Total Allowable Catches) to be handled? The report argued that a scheme of individual entitlements will help in meeting one of the fundamental objectives of the Kirby and Pearse Commission reports (i.e., economic viability), but for the system to work, it must be implemented through legislation rather than administrative action.

Working Together: A Study of Fishermen's Response to Government Management of the District 4A Lobster Fishery (ea, ccr)

Geographical location: Southwest Nova Scotia

Undertaken by: John F. Kearney (Research grant, Department of Fisheries and Oceans)

Year: 1984

Contact: John F. Kearney
Université Sainte-Anne
Pointe-de-l'Église, N.S. B0W 1M0

Description:

The enforcement of lobster trap limits in District 4A (Digby, Yarmouth and Shelburne counties) precipitated vehement controversy within the lobster fishery in 1982, and led to violence during 1983. The formation of an advisory Working Group, the introduction of plastic trap tags to replace aluminum tags, the reluctance of fishery managers to issue replacement tags, and the formation of a local fishermen's organization affected the nature of the relations between fishermen and government managers. The study undertook the task of reviewing lobster fishermen's views on current management practices and assessing preferences concerning future management options. Two principal recommendations were put forward as a result of interviews and returns from 544 mailed questionnaires. The first called for the development of a detailed economic profile of the 4A fishery, while the second suggested replacing the present consultative process with a two-tiered structure consisting of an Inshore Fishermen's Management Council and local committees.

Conflict and Conflict Resolution

Competition for Ocean Space: The Bay of Fundy Fishery and Marine Transportation Industries (ll, ef)

Geographical location: Bay of Fundy

Undertaken by: André d'Entremont (M.E.S. thesis, 1983)

Years: 1982-1983

Contact: School for Resource and Environmental Studies
Dalhousie University
Halifax, N.S. B3H 3E2

Description:

This study examined ocean use conflicts in the Bay of Fundy, focussing on fishing and shipping industry interactions. Vessel movements in the Bay of Fundy increased from 11,294 in 1976 to 18,455 in 1980. Denser marine traffic, coupled with the fact that 80% of total commodities handled are oil and petroleum products, could result in adverse effects on the local fishery through marine accidents. Marine casualties could lead to a loss of life and/or property or a loss of resources through oil spills. A major spill has not yet occurred in the Bay, but the potential to adversely impact one of five especially sensitive areas in the outer Bay of Fundy exists. These five areas are southwest Nova Scotia, Brier Island-Digby Neck, the Bay of Fundy gyre, Grand Manan and Passamaquoddy Bay. Saint John harbour, Yarmouth harbour and the

Brier Island region were identified as having the highest incidence of marine casualties. However, 70% of the 214 reported casualties involved fishing vessels; only seven tankers were involved in a casualty.

Marine casualties have levelled off in the Bay since the introduction of the Bay of Fundy Vessel Traffic Management System in 1975. Improvements in the navigational competence of fishermen, coupled with alterations in the Fundy Traffic System, were cited as needed to continue reducing accident risk in the Bay of Fundy.

Fishermen's Information Needs about the Proposed Venture Development Project Subsea Gas Pipeline (ef)

Geographical location: Eastern Shore, Nova Scotia

Undertaken by: Gaye Drescher (M.E.S. thesis, 1986)

Years: 1984-1986

Contact: School for Resource and Environmental Studies
Dalhousie University
Halifax, N.S. B3H 3E2

Description:

The purpose of the study was to identify the information needs of inshore and offshore fishermen using the area designated as the pipeline corridor from the Venture well site to landfall in the vicinity of Country Harbour. The study involved profiling area communities and interviewing fishermen to: 1) ascertain how and what information about the proposed development has been disseminated, and 2) assess the efficacy of existing communications channels. A comparison of fishermen's concerns (obtained through interviews) and issues raised at the Socio-Economic Review Panel public hearings was central to the analysis.

Gear Damage in the Nova Scotia Inshore Fishery (ef)

Geographical location: Nova Scotia

Undertaken by: Paula Farmer and Allan Billard for the
Eastern Fishermen's Federation

Year: 1984

Contact: Allan Billard
Eastern Fishermen's Federation
P.O. Box 384, Station M
Halifax, N.S. B3J 2P8

Description:

This study evaluated seal damage in the Nova Scotia inshore fishery. $94,589 in damage and loss of gear were attributed to grey and harbour seals by fishermen in a survey conducted among 8.8% of the fishing population. Total damage values during 1983 were estimated to be in excess of $1,076,430.

The problem was examined within the context of predator-prey relationships and the authors noted some of the difficulties associated with marine management. For example, fish stocks are managed by biological assessment, which results in the continuous need to fine-tune regulations in various fishing districts. However, managing prey as opposed to predators increases the competition for fish stocks within the one controlled predator group, fishermen.

Local-level Resource Use and Management

Awareness for Women in the Fishery (AFWF) (ef, ccr)

Geographical location: Cape Breton, Nova Scotia

Undertaken by: Awareness for Women in the Fishery group, funded by Secretary of State

Years: 1984-1985

Contacts:

Kathy Squires
P. O. Box 1000
Bras d'Or
Cape Breton, N.S.
BOC 1BO

Dr. Mary K. MacLeod
Beaton Institute
University College of
Cape Breton
Sydney, N.S. B1P 6L2

Description:

In 1984, a small group of women who fish in the Cape Breton area formed an organization called "Awareness for Women in the Fishery." Its purpose was to establish a support group to assist members in overcoming problems associated with their non-traditional employment in the fishery. The group undertook a survey to determine how many women were actually engaged in fishing, and to ascertain what their primary concerns or needs were.

Of the 227 women holding personal fishing licences in 1983, 146 were interviewed. Eighty-nine percent indicated they would like to see a permanent women's support group in Cape Breton. Ten recommendations related to resource management and regulations in the Scotia-Fundy region emerged from the study:

1. licence disposal in the event of death: a recommendation to extend the period a widow may hold her husband's licences from two to five years;

2. disposal of trawl licence/vessel: a recommendation to revise present regulations requiring widows to sell licences and vessels as a single unit (this change is already in effect in the Gulf region);

3. clothing: few manufacturers produce protective clothing which fit women properly - e.g., gloves that are too large may become caught in machinery and fingers can be lost;

4. joint ownership: under present laws, a husband cannot transfer any fishing assets to his wife without being penalized;

5. qualifying weeks: many women hold only lobster licences and cannot fish, because of bad weather, for ten weeks, the minimum required to receive Unemployment Insurance Commission benefits;

6. Fisheries Loan Board: boat/gear loans should be life-insured to protect widows/widowers against hardship generated by downturns in the economy;

7. Department of Fisheries and Oceans policies: more stringent surveillance and enforcement practices will enhance resource protection;

8. regulations: to keep fishing women and men up to date on regulatory changes, a recommendation was put forward to append current regulations to licences upon renewal;

9. collective bargaining;

10. fringe benefits: government-sponsored compensation and medical and pension plans were perceived as necessary.

Captains in Port Markets (ef)

Geographical location: Nova Scotia

Undertaken by: R. Apostle and G. Barrett

Years: 1985-1986

Contacts:

R. Apostle
Department of Sociology
and Social Anthropology
Dalhousie University
Halifax, N.S.

G. Barrett
Department of Sociology
Saint Mary's University
Halifax, N.S.

Description:

The purpose of the project was to examine the socio-economic processes associated with price determination in port markets. The study was designed to explore the nature and characteristics of fishermen/fish buyer-processor relationships, with special attention to questions concerning fishing effort, productivity and connections to specific fishing locales; longitudinal work histories of fishermen; fishermen-buyer relations, the extent of dependence ties and pricing arrangements; community attachment, and views of the state and state policies.

Land and Sea: The Structure of Fish Processing in Nova Scotia, 1984-1986 (ef)

Geographical location: Nova Scotia

Undertaken by: R. Apostle, G. Barrett, T. Davis and L. Kasdan

Years: 1984-1986

Contact:

Gorsebrook Research Institute for Atlantic Canada Studies
Saint Mary's University
Halifax, N.S. B3H 3C3

Description:

The project involved an investigation of the Nova Scotia fish processing industry. Contrary to the prevailing view that the fish processing sector is in decline, findings indicated that the number of operating plants actually increased from 165 in 1981 to 225 in 1984; however, 84%

of the small processing firms are located in Southwest Nova Scotia. The study focussed on the personal dimensions of three categories of relationships: between fish plant managers and fishermen, between workers and brokers, and between fish processors and government. Researchers found that a majority of processors perceived the "ideal" production unit as small or intermediate in size and family-owned or managed (in contrast to large, corporately owned and managed enterprises) because smaller units are capable of reacting more quickly in decision-making situations. Despite apparent advantages associated with organized activity, processors in Southwest Nova Scotia are reluctant to give full-fledged support to industry-wide organizations and tend to organize along vessel, gear or product lines (e.g., draggers and purse-seiners; salt fish and herring, etc.).

Models of Fishery Development: The Cooperative Approach (ef)

Geographical location: Norway and Atlantic Canada

Undertaken by: Svein Jentoft

Year: 1985

Contact:
Institute of Fisheries
University of Tromso
Postboks 635
9001 Tromso, Norway

Description:

Jentoft was a Visiting Professor at the Department of Sociology and Social Anthropology, Dalhousie University, in 1984-1985. During his stay in Atlantic Canada, he examined questions and issues relevant to both the Norwegian and eastern Canadian fisheries. He was particularly interested in exploring collective approaches for resolving fishing industry problems such as those related to distribution, coordination, regulation and innovation. Cooperative models were explored as alternatives to direct state control or market mechanisms. Jentoft cited two central reasons why cooperatives heretofore had failed: they are often established on an *ad hoc* basis in response to a crisis, as a "last resort" solution; and they tend to be single-purpose rather than multi-purpose organizations. Given the current circumstances of the Atlantic fishery (e.g., economic crisis and continuous challenges to regulatory management approaches), Jentoft argued that the time was ripe to re-evaluate the cooperative approach.

The Offshore, Small Boat Fishery of Southwest Nova Scotia (ef)

Geographical location: Southwest Nova Scotia

Undertaken by: Alan G. Gray (M.E.S. thesis, 1983)

Years: 1982-1983

Contact:
Alan Gray
School for Resource and Environmental Studies
Dalhousie University
1312 Robie Street
Halifax, N.S. B3H 3E2

Description:

Fishing activities of the Southwest Nova Scotia small boat fleet (boats between 35' and 65' LOA [Length Over All], under 25.5 grt) were profiled. Survey results indicated that considerable "offshore" fishing was taking place, despite prevailing assumptions that this fleet fished mainly in coastal waters on day trips. The implications of misreporting the nature of the fishing activity were examined, raising questions about biological management of fish stocks, the Georges Bank boundary dispute, environmental assessment in offshore areas, and gear conflicts. A basic economic model explaining the implications of offshore fishing by small boats in the context of a common property resource theory was also developed.

Property Rights and Access Management in the Small Boat Fishery (ra, ccr, ef)

Geographical location: Southwest Nova Scotia

Undertaken by: A. Davis

Years: 1983-1984

Contact:
A. Davis
Department of Sociology
St. Francis Xavier University
Antigonish, N.S. B2G 1C0

Description:

The study examined some of the conflicts between federal government fisheries regulations and small boat fishermen. Davis argued that small boat fishermen organized "their" fishery in ways that were more appropriate to the local environment and resource base than to bureaucratically designed management systems. The limitations of the small boat system of access management were attributed to external socio-economic and political factors such as market conditions, government policy, and offshore, mobile fishing activities. Davis suggested that the Department of Fisheries and Oceans managers could benefit from the experience and knowledge of local fishermen, and that regulation based on local practice would be more effective than externally designed and implemented regulations.

Fishermen/Buyer Relations in the Maritimes (ef)

Geographical location: Maritimes

Undertaken by: Economic and Commercial Analysis Directorate
Department of Fisheries and Oceans, Ottawa

Years: 1982-1984

Contact:
C. Steinberg
McGill University
Faculty of Management
1001 Sherbrooke Street, W.
Montreal, Que. H3A 1G5

Description:

Steinberg's study evolved from findings of the Task Force on Atlantic Fisheries (1982) such as the need to minimize "we" versus "they" conflicts between fishermen and fish buyers and processors. The study examined port markets in the Maritime provinces, the structure of the fishing industry, and the differing expectations and attitudes of fishermen and buyers. It also reviewed alternative systems for resolving differences between fishermen and buyers. Steinberg concluded that collective bargaining was the most appropriate vehicle to redress the imbalance between buyers and sellers in the port marketplace, although he recognized that it was not a problem-free solution. Collective bargaining is perceived to guarantee fishermen full participation in the process of price determination, and ensures that fairness will prevail.

External Factors Influencing Local-level Management

Fatalities and Injuries in the Inshore Fishing Industry

Geographical location: Maritimes

Undertaken by: Maritime Fishermen's Union

Years: 1975-1984

Contact: Maritime Fishermen's Union
P.O. Box 1418
Shediac, N.B. E0A 3G0

Description:

The Maritime Fishermen's Union, concerned by the lack of public and governmental interest in marine safety, particularly among inshore fishermen, reviewed fatality and injury statistics for the years 1975 to 1984. The findings indicated that fire, fish hooks and machinery were sources of danger. Although many fishermen have some form of life insurance coverage, only a small percentage have insurance coverage for income lost through illness or injury. The study identified five areas where safety might be improved: 1) additional on-board safety equipment; 2) increased education or instruction with respect to fire fighting, first aid, and search and rescue techniques; 3) realignments in search and rescue facilities and services; 4) increased consultation between fishermen and government officials (for example, Strait of Canso fishermen are prohibited under existing regulations from upgrading their boats to handle larger herring loads, thus running the risk of swamping); and 5) provision of an income security plan.

The Position of Women in the Nova Scotia Secondary Fishing Industry: A Community-based Study

Geographical location: Southwest Nova Scotia

Undertaken by: Susan Ilcan

Years: 1984-1985

Contact: Gorsebrook Research Institute for Atlantic Canada Studies
Saint Mary's University
Halifax, N.S. B3H 3C3

Description:

The study examined the social organization in the fish processing sector of a small, Southwestern Nova Scotia fishing community to analyze the conditions under which capital recruits and utilizes labour, and the relationships between capital, labour and the region's rural social structure. The findings indicated the vulnerability of fish plant workers due to the seasonality of work, irregular supplies of fish, policies regarding unemployment insurance qualifying criteria, and lack of regional employment alternatives. In addition, the existence of a large labour reserve in resource-dependent communities and the absence of labour organizations enable processors to control employment by hiring on a casual or seasonal basis, or laying off workers permanently because they might threaten the status quo.

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SECTION II

TOWARD INCREASED EXPERIMENTATION IN THE COMMUNITY MANAGEMENT OF COASTAL AREAS IN QUEBEC

by

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1. OVERVIEW OF KEY RESOURCE ISSUES: THE IMPACT OF THE MRC* (REGIONAL MUNICIPALITIES)

It is difficult to talk about local resource management in Quebec without mentioning the law on "management and urbanism" adopted by the provincial government in 1979. The law created a new juridical and political framework within which most of the actions now being taken on the environmental management of coastal areas have to be analyzed.

Before entering into more detail about our immediate concern, I would like to provide a short historical background on the relations between the state and the local communities in terms of resource management. Greatly influenced by the changes that took place in the 1960s with the advent of the "Quiet Revolution,"** the provincial government decided, in 1966, to create ten major administrative districts in order to increase its efficiency and reduce the economic gap between rural and urban areas. This new structure, while supposing a stronger participation of the regions in the decision-making process related to their development, was also oriented toward a decentralization of the state apparatus. Among the peripheral regions characterized especially by underdevelopment were those of the Gaspé Peninsula and the North Shore, two areas comprising coastal marine zones, both largely dependent on a fishing economy.

The Gaspé Peninsula, the most affected by a declining economy and endemic emigration, rapidly became the object of a planned intervention, through a joint project of the federal and provincial governments known as the B.A.E.Q. (Bureau d'aménagement de l'Est du Québec). Executed over a 6-7-year period, the B.A.E.Q. aimed at bettering the regional economy by initiating new projects developed in close collaboration with local populations. In fact, large sums of money were spent to hire social scientists who were prepared to work in the field, hold assemblies with the citizens, and discuss with them a proposition to reorient the resource management of their region. But as time progressed, more and more dissatisfaction developed and overall, the project revealed itself a failure. Though the intention was to create stronger local and regional frameworks for political and economic decisions, the actions taken served mainly to support and enlarge a "new bureaucracy." Its rationalistic orientation, based on strictly formalist devices, largely neglected and rejected the suggestions of the local people, forcing several of them to leave their villages or abandon their occupations. In response to the discontent and protests, strongly supported in some cases by the clergy and traditional elites, the government had to suspend its "decentralization" project. On the North Shore, the opening of mining centres temporarily reduced unemployment and gave the region new economic dynamism.

During the 1970s, the political situation in Quebec, if it did not substantially affect the previous administrative reorganization, nevertheless created a context in which cultural rather than economic discourses prevailed, and the question of national autonomy predominated over local and regional concerns.

After the election of the Parti Québécois in 1976, some members of the party proposed a new approach to state intervention. They wished to increase the "socio-democratic image" of the government. Their efforts resulted in the adoption of Bill 125 in 1979, a law which provided a new framework for the participation of local and regional elites in resource management and economic development. Bill 125 can be defined as an ideal model generating

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* Municipalités régionales de comté

** The advent of the Liberal Party on the Quebec political scene after several decades of Conservative rule

operational tools intended to influence future actions. It forces the rural municipalities and local towns to redefine their "appartenance" (place and identity) within a regional municipality, and allows seven years for local populations to submit a final management plan for their regions. A preliminary proposal is required after a period of three years. The main objectives of the bill are the following:

- to provide citizens with an appropriate framework for reinforcing their local and regional dynamism;

- to give them greater responsibilities in the political and economic spheres;

- to help the communities, technically and financially, with the management of their territory, and in accord with their objectives and priorities; and

- to decentralize the governmental structure and to increase the power of local and regional authorities.

Up to now, most of the 95 regional municipalities, which include between one and 32 localities, with an average population of 32,000 people, have produced, as required by law, a preliminary management plan for their area. The plans are currently being reviewed by government representatives who will decide on their final adoption before the end of 1987. They include several recommendations which touch on a variety of issues. The following are among the most important:

- the general orientation of resource management for the localities included in each of the regional municipalities;

- the major uses of the territory for each economic sector;

- the identification of zones potentially endangered by natural phenomena (erosion, floods, etc.);

- the preservation of zones of historical and cultural interest;

- the identification of areas designated for infrastructure projects (roads, electricity, etc.).

Among the 95 regional municipalities of Quebec, several are adjacent to coastal areas. While the St. Lawrence River cuts across the whole province, some municipalities are clearly identified as belonging to a maritime region, and these will have to consider the management of their coastal areas. A detailed survey of all the actions taken or proposed concerning the management of marine zones still needs to be done, but there is no doubt that several local-level resource management research projects in Quebec are being conducted within the context of Bill 125.

The paradox, however, is that while the government apparently encourages the local populations to participate actively in the management process, in practice, the operational structure of the regional municipalities is such that it does not take into account the views of the majority of the citizens. Most of the consultations on management have been held with elected representatives who have not always solicited the views of their constituents. Nevertheless, generally speaking, more citizens are becoming aware that they have a rightful voice in the management of their municipalities (as witness the recent reorganization of the fishing plants in the Gaspé Peninsula), and social scientists are also awakening to the fact that the citizens' views are not always reflected in the final management plans adopted for their region.

The descriptive inventory which follows includes but a few examples of research dealing with the problems of community resource management. It should be pointed out, however, that in Quebec, a large political and juridical framework exists which provides the basic guidelines for action, and the resolution of management problems cannot be grasped through individual or isolated cases alone. The inventory includes specific information on projects related to fishing areas.

The projects are classified according to subject categories. The categories and their abbreviations are:

Headings	Codes
regional development planning	rdp
resource/environmental enhancement and conservation	rec
environmental assessment	ea
aboriginal land and resource agreements	aa
resource allocation	ra
conflict and conflict resolution	ccr
local-level resource use and management	ll
external factors influencing local-level management	ef

2. DESCRIPTIVE INVENTORY

Regional Development Planning

Développement du secteur des pêches et son impact économique local et régional (*Fishing and Regional Economic Impact*) (ea, ef)

Chercheur/*researcher*:	Joel Rouffignat (géographie) Université Laval
Étudiants diplômés/ *graduate students*:	Anne-Marie Day, Programme de maîtrise en aménagement du territoire et développement régional (ATDR), Université Laval Philippe Guerrier (ATDR)
Début des travaux/ *start-up date*:	Février 1983

Abstract:

Socio-economic changes have a geographic dimension: they contribute to a relocation of activities and affect the regional management and development of an area. Modernization of an economic sector is characterized by a polarization of activities which in turn tends to increase spatial inequalities.

This project examines the development of spatial inequalities in the fishing sector and their evolution in the regional municipalities and counties of Bonaventure and Pabok. It examines trends related to specialization and concentration of fishing and fish processing, both in terms of structural aspects (businesses) and location.

Résumé du projet:

Les transformations socio-économiques qui affectent un secteur d'activité ont une dimension géographique: elles provoquent une relocalisation de ces activités et affectent ainsi

l'aménagement et le développement de territoires et de régions. La modernisation d'un secteur économique, par la polarisation qu'elle entraîne, tend à accroître les inégalités spatiales dans une région.

Ce project de recherche sur le développement du secteur des pêches et son impact économique local et régional a pour objet d'étudier l'évolution des inégalités spatiales au sein des territoires des municipalités régionales des comtés de Bonaventure et de Pabok. Le secteur des pêches a connu une transformation rapide et importante sur plusieurs plans (ressources, production, transformation, commercialisation) depuis plusieurs années. Ce phénomène a entraîné un processus de spécialisation et de concentration des activités tant au niveau structurel (entreprises) que spatial (localités) et il se poursuit encore actuellement.

Notre étude porte surtout sur l'aspect spatial de ce phénomène. Les activités de pêche s'insèrent dans un contexte économique et social particulier à chaque localité (villages ou municipalités) et à chaque sous-région (Bonaventure, Pabok). La transformation des structures de pêche modifie la qualité et l'intensité des interrelations existant entre la pêche et les autres activités économiques locales et la structure des relations entre les diverses localités d'une sous-région. Pour évaluer l'impact de la modernisation des pêches sur le potentiel de développement économique local et régional, nous avons abordé ce problème sous trois angles complémentaires:

- analyse socio-économique de la région comprise entre New Richmond et Percé;
- analyse socio-économique de six communautés de pêche;
- analyse des activités de pêche et de leur relation avec les autres secteurs économiques et régionaux dans ces six communautés.

Cadre législatif, secteur territorial et réalité régionale (*Management and the Impact of Bill 125*) (ea, il)

Chercheur/*researcher*:	Marcel Bélanger, Université Laval (géographie)
Collaborateurs/ *collaborators*:	Luc Bureau (géographie) Pierre Fréchette (Programme de maîtrise en aménagement du territoire et développement régional [ATDR] et Économique)
Étudiants diplômés/ *graduate students*:	Anne-Marie Séguin (géographie) Jocelyn Hébert (ATDR) Claude Lussier (ATDR)
Programme de recherche/ *research program*:	Cadre législatif, structures territoriales et réalités régionales
Début des travaux/ *start-up date*:	Octobre 1983

Abstract:

Regional management must begin with an examination of the past and present forces affecting a group in society, and relating these to its economic and cultural situation. A strategy has been developed whereby a plan of action for a regional municipality includes documentation on both the regional economy and the culture of the area. Under Bill 125, the expression of regional identity can take account of the forces in the region. The municipalities of Bellechasse and Etchemins are studied.

Résumé du projet:

La pratique de l'aménagement passe obligatoirement par des phases exploratoires de recherche, et cette activité exploratrice s'attache aujourd'hui à la découverte des inconnus d'une société. Mais ces derniers ne peuvent se découvrir que dans la mise en relation de toutes les forces du champ social: forces traditionnelles et forces nouvelles. Cette mise en relation s'inscrit, à son tour, dans un principe fondamental qui est celui du rapport entre les dimensions économique et culturelle du champ social. C'est à travers ce rapport que s'effectue, en fait, l'acte exploratoire et c'est là aussi que doit se trouver l'origine de toute action de développement et d'aménagement. D'où la stratégie qui vient proposer la confection de documents distincts dans l'élaboration d'un schéma d'aménagement pour toute municipalité régionale de comté (MRC), l'un visant l'économie régionale et l'autre visant la culture régionale. De cette façon peut s'amorcer le processus de confrontation et d'une mise en relation sur le terrain des forces dont la disjonction est à l'origine de la problématique de développement:

- **l'énoncé même de la loi 125 promet une expression régionale sous le contrôle des forces présentes dans chaque région;**

- **le débat très contemporain entre "niveau de vie" et "condition de vie," qui se pose avec beaucoup d'acuité en milieu régional, se retrouve au centre de notre démarche.**

Le projet vise à explorer de nouvelles conditions méthodologiques les plus susceptibles d'induire une nouvelle pratique de l'aménagement, et à formuler des nouveaux principes dont pourraient ou devraient s'inspirer les aménagistes en poste dans l'élaboration des stratégies de recherche. Le respect d'une territorialité, d'une différence régionale ou autre pourrait être accepté et les éléments de culture pourraient y être adéquatement conjugués à la dimension économique et ce, à l'intérieur des nouvelles forces sociales. Du côté pratique et à court terme, les MRC de Bellechasse et Etchemins pourront profiter à plein du travail que nous entendons mener avec la participation même des intervenants du milieu.

Analyse régionale et développement rural intégré (*Management and Decentralization*) (ea)

Chercheur/*researcher*:	Joel Rouffignat
Collaborateurs/ *collaborators*:	Christian Morrissonneau, Université du Québec à Montréal (UQAM, géographie) Aubert Hamel (UQAM, biogéographie) Marc Vallières (histoire)
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Programme de recherche/ *research program*:	Analyse régionale et développement rural intégré
Début des travaux/ *start-up date*:	Juin 1983

Abstract:

Rural Quebec has been subject to various types of agricultural land use and occupancy. The project analyzes the influence of the residents of the region on the evolution of the landscape. It examines patterns of land use on the south shore of the St. Lawrence River, with a view to

strengthening policies related to agricultural zoning, decentralization and the implementation of local development projects.

Résumé du projet:

L'espace rural québécois s'est élaboré par une succession et une superposition de différentes formes d'occupation et d'aménagement du sol. Plusieurs types d'occupants ruraux - le colon, l'habitant, le cultivateur - ont participé, à travers leurs rapports singuliers à l'espace, à l'édification des structures actuelles de l'espace rural de la Côte-du-Sud.

Sur le plan théorique, nous voulons participer à une meilleure analyse du rôle de la paysannerie dans l'élaboration de l'oekoumène québécois. Ensuite, sur le plan pratique, les objectifs du projet sont les suivants:

- analyser l'interpénétration des diverses formes d'occupations rurales sur la Côte-du-Sud (particulièrement les paroisses de l'Islet-sur-Mer et St-Adalbert);
- définir et caractériser les formes successives d'occupation et d'aménagement du territoire rural;
- insérer ces formes d'occupation dans l'environnement physique local et régional;
- examiner les structures actuelles de l'occupation du sol.

Les principales retombées visent à une meilleure connaissance des formes d'occupation du sol pour permettre une capacité d'intervention dans les projets politiques comme le zonage agricole, la décentralisation et les projets de développement locaux.

Aménagement et participation populaire dans la municipalité régionale du comté de Bellechasse (*Relations between Government and Local Population*) (II, ccr)

Chercheur/*researcher*: Jean Bolduc, Université Laval (anthropologie)

Programme de recherche/ *research program*: Maîtrise en anthropologie

Début des travaux/ *start-up date*: 1985

Abstract:

Bill 125, which deals with management and urbanization, and which the Quebec government adopted in 1979, provides a structure whereby municipal officials can involve local people in solving regional management problems. A gap continues to exist, however, between the possibilities provided by the Law, and the application of the legislation. This research project is expected to show how Bill 125, while appearing to favour regional interests, in fact maintains local rivalries and vested interests.

Résumé du projet:

La loi 125 sur l'aménagement et l'urbanisme adoptée par le gouvernement québécois en 1979 a créé, au niveau de la politique municipale, un nouveau cadre d'interaction à l'intérieur duquel les édiles municipaux sont susceptibles de favoriser une plus grande participation des citoyens à la résolution de leurs problèmes d'aménagement. Toutefois, entre les possibilités incluses dans la loi et son application réelle, existent des distortions signif' atives. Les édiles municipaux,

s'appuyant sur leur rôle traditionnel de représentants élus, consultent peu la population ou s'ils le font, c'est à l'aide de documents bureaucratiques dont le contenu demeure loin des préoccupations quotidiennes des gens en plus d'être plus ou moins accessibles sur le plan du langage. La recherche vise à démontrer que sous le couvert d'une appartenance plus forte à une région, la loi favorise plutôt le maintien des rivalités locales et accentue la position privilégiée de certains groupes dans les processus décisionnels.

Local-level Resource Use and Management

Les pêcheurs commerciaux de Notre-Dame de Pierreville (Lac St-Pierre) (*Mainland Fishing and Environment*)

Chercheur/*researcher*: Johanne Lacasse
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Programme de recherche/ *research program*: Maîtrise en ethnologie

Début des travaux/ *start-up date*: 1983

Abstract:

While inland fishing has decreased in Quebec, commercial fishing groups still exist along the St. Lawrence River. The study looks at the fishermen of Pierreville, who are under pressure from industrial pollution, cottage development, and municipal and provincial requirements. It studies the economic organization of producers and identifies ways in which they can continue their activities. It also examines the question of management of the banks of Lac St-Pierre.

Résumé du projet:

Même si l'importance de la pêche intérieure a considérablement diminué au Québec depuis plusieurs décennies, existent ici et là le long du fleuve St-Laurent quelques groupes de pêcheurs commerciaux qui continuent d'exploiter les espèces poissonneuses. Fortement soumis aux contraintes de la pollution industrielle mais aussi à l'expansion de la "chaletisation" de la part des vacanciers, les pêcheurs de Pierreville illustrent bien la situation de producteurs halieutiques aux prises avec des revendications constantes, tant auprès de leurs édiles municipaux que provinciaux. Le but de l'étude consiste à reconstituer les techniques et l'organisation économique de ces producteurs et à identifier les mécanismes qui leur permettront de maintenir leurs activités dans le futur. Le problème de l'aménagement des rives du Lac St-Pierre est donc au centre de leurs revendications.

Pêcheries et municipalisation en Basse-Côte Nord (*Fishing and Local-level Politics on the Lower North Shore*)

Chercheurs/*researchers*: Yvan Breton
Marie Giasson
Département d'anthropologie
Université Laval

Début des travaux/ *start-up date*: 1987

Abstract:

The Lower North Shore of the St. Lawrence River has only recently been subject to integrated development efforts, due in part to its distance from major centres where decisions are made. Current government plans include the municipalization of the communities and involving them more in efforts to change the fishing industry. This study looks at how the strategy meets local expectations as well as how best to consult with local people.

Résumé du projet:

En tant que région périphérique caractérisée par un éloignement significatif des centres de décision, la Basse-Côte Nord du St-Laurent n'a été que très récemment soumise à des efforts intégrés de développement. Parmi ces efforts, l'implantation d'un processus lié à la municipalisation des villages de même que leur insertion plus forte dans la transformation des pêches québécoises sont au centre des stratégies gouvernementales. Le but du projet est de mesurer comment ces initiatives s'inscrivent dans les attentes des populations locales et de s'interroger sur la mise sur pied de meilleurs mécanismes de consultation.

3. BIBLIOGRAPHY

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NOTE

Several theses and articles on the MRC (regional municipalities) have been undertaken in the following institutions:

ENAP (École nationale d'administration publique, Sainte-Foy, Québec)

CRAD (Centre de recherche en aménagement et développement, Université Laval)

ATDR (Programme de maîtrise en aménagement du territoire et développement régional, Université Laval)

INRS (Institut national de la recherche scientifique, Université du Québec)

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SECTION III

LOCAL-LEVEL RESOURCE MANAGEMENT STUDIES/PROJECTS IN THE JAMES BAY REGION

by

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1. DESCRIPTIVE OVERVIEW

Topics Covered and Gaps

As industrial resource development rapidly expanded in the James Bay region over the last two decades, public awareness of the region has grown. In addition to this, accelerated research has been stimulated not only by the increased rate of resource development in Quebec where massive hydro-electric development projects are underway, but also by the opposition to unregulated development by the indigenous peoples, the negotiation and implementation of the James Bay and Northern Quebec Agreement (JBNQA) signed in 1975 to partially redress James Bay Cree and northern Quebec Inuit demands, and the development of indigenous self-governance and diversified indigenous economies. As a consequence, the James Bay region of Quebec is now one of the most intensively studied subarctic or arctic regions of Canada. Ontario, by contrast, is one of the less intensively studied areas, although in recent years there has been a decided growth in research there as well.

Industrial development and native rights claims have not only affected the intensity and locations of research efforts, they have also shaped the topics of research. The main focusses of research in the James Bay region are in the areas of:

- wildlife inventories;
- quantitative studies of native land use, wildlife resource use, subsistence production and socio-economic systems;
- human ecological studies of native adaptations and productive systems;
- socio-cultural studies of native systems of knowledge and ideology;
- ethno-historical and contemporary studies of the impacts on native peoples of the penetration of the world market and of the welfare state;
- studies of the consequences of the rights, benefits and structures recognized or established by the JBNQA, and linking of Cree self-governance practices to state structures for policy-making and management;
- studies of the regional impacts of economic development and economic development planning; and
- studies of the environmental and social impacts of the hydro-electric schemes.

In contrast to these areas of active research, the descriptive inventory which follows indicates that little work has been done to collect new data relevant to the management of wildlife populations and stocks, and only limited work to analyze the history and development of governmental economic and social policies, or the long-term social and economic consequences of the penetration of industrial enterprises into the region. Indeed, most of the research has clearly focussed on native peoples as opposed to wider markets and the state, although there are some trends developing in these directions.

Among the areas of current research where there are insufficient efforts, I would also include research on the socio-economic impacts of development and development planning, and research on the environmental and social impacts of the hydro-electric developments. These are both areas to which governments and governmental corporations have not granted the same level of funding as has been granted to areas with less potential to be politically embarrassing to them.

Key Resource Use Issues

While the main areas of research have focussed on the local uses and management of regional wildlife resources, in practice, government policy-makers have not sufficiently recognized the available research on local resource use, nor have they allowed local resource managers to play an effective role in actual policy-making. Although a significant number of government-mandated resource managers are aware of and sensitive to these issues, many senior level policy-makers do not respect or use such knowledge as is available on the local level. Hence, the problem is not the unavailability of information, but the lack of will among some government policy-makers to apply such knowledge and to change decision-making practices so as to incorporate effective local participation.

A second problem, in part a consequence of the first, is that effective management by government-mandated wildlife resource managers does not exist for some species, and is inadequate for many others. This results from the fact that wildlife and environment managers for northern Quebec often give precedence to political considerations over conservation and management. The problem is not the presence of political considerations, but their predominance, especially in the provincial administrations.

One positive feature of the current situation is that management responsibility, in practice, rests largely at the local level, where it remains generally effective. However, such government decision-making as there is often disrupts and fails to support local processes aimed at using and conserving wildlife resources and lands. The lack of management-oriented research, cited above, reflects these unresolved problems in the coordination of policy-making.

Another problem is the enforcement of regulations in the region, especially with respect to hunters and fishermen and commercial outfitting operations. There are too few enforcement officers to effectively apply the regulations on sport hunting and fishing. Illegal outfitting is tolerated and at times, what appear to be illegal transfers or expansions of operations may be informally assisted by the government departments responsible for their regulation.

Parallel to these issues, the provisions of the JBNQA have not been completely implemented. In the present context, the most important example is the slow and only partially effective implementation of the objectives of the Co-ordinating Committee on Hunting, Fishing and Trapping, which are to ensure the participation of local native populations in governmental decision-making, and to coordinate local-level and government-mandated management processes. While the work of this committee is becoming more effective, its decisions and advice are still being bypassed on occasion in government policy-making processes. And in general, when the committee is consulted, it does not effectively participate in the policy-making processes. Rather, it is treated as a sounding board for decisions already taken, or as an external lobbying organization, and not as an integral participant in the decision-making process as originally intended.

A further problem issue is the need to protect land and wildlife from the massive developments occurring in the region. These impacts include both large-scale hydro-electric projects and forestry operations which have had an effect on extensive tracts of land. No effective restriction on these activities has yet been implemented, although several measures are being explored under the social and environmental impact provisions of the JBNQA. These problems are not only social and economic, but may have potentially severe repercussions on health as well. Elevated methyl-mercury levels have been discovered in the fish and in the native people who fish in the new reservoirs and the rivers downstream of the dams.

A final issue is the need to develop more extensive locally run renewable resource-based development projects. Highly desired by the native population, such ventures are just beginning to be explored, and are essential to support the young and rapidly growing population of the region. Development is slowed by the complexity of the task and by the distance of the

region from important outside markets, but forestry and game farming operations are now in various stages of development or planning.

Needs for Synthesizing Research

Studies of the adaptation, regulation and management of wildlife and lands by local populations are probably more extensive in this region than anywhere else in the country, and several key studies are in the process of publishing results. These studies document and assess local management practices, and in some cases provide an analysis of the local conflicts and socio-political mechanisms that exist. They cover a range of perspectives, from the foraging and predation theories of the biological sciences, to decision-making, modes of production and symbolic production, and semiotic analyses from the economic and cultural sciences.

Several synthetic accounts are underway which relate to general theory or specific resource species, and which will further enhance the dissemination and general usefulness of research results. The time may be at hand for a comparative review to assess the relative accomplishments and weaknesses of the different analytical approaches which have been used to date by researchers.

Another review could explore a second set of evaluative questions concerning the practical effectiveness of these differing approaches in increasing control by local resource users, and enhancing their influence on governmental policy-making and program implementation processes.

Further studies on the impact of regional development and development planning are also needed. Regional development studies have been undertaken in several Canadian regions, and the unique features of the James Bay region of Quebec warrant the same attention. The desire of the local populations to develop economies based on renewable resources has resulted in their gaining control of significant pools of capital and other economic resources, as well as in the creation of new structures for their participation in regional socio-economic planning and decision-making. The questions are: how effective have these new developments been, and what have been their results to date?

The potential contribution of the latter review is closely linked to questions concerning the effectiveness of the JBNQA provisions with respect to:

- whether resource management has been successful under the Agreement;
- whether the nature of the dependence of the local populations on markets and the state has been altered, and if so, how and why; and
- whether a new and cooperative relationship has been established between local and state resource managers.

These questions are being addressed in more recent studies, and the results are expected to be of considerable interest to other regions of the country.

Note: In the descriptive inventory which follows, many studies and projects were classified as belonging to several subject categories. Following the title of each entry, a code indicates the other subject categories which were judged relevant.

Headings	**Codes**
regional development planning	rdp
resource/environmental enhancement and conservation	rec

environmental assessment	ea
aboriginal land and resource agreements	aa
resource allocation	ra
conflict and conflict resolution	ccr
local-level resource use and management	ll
external factors influencing local-level management	ef

2. DESCRIPTIVE INVENTORY

Regional Development Planning

Research Program for Technology Assessment in Subarctic Ontario (TASO)* (ea, ef)

Geographical location: Northern Ontario

Undertaken by: McMaster University

Years: 1982 - ongoing

Contact: Richard J. Preston
Department of Anthropology
McMaster University
Hamilton, Ont. L8S 4L8

Description:

The Program for Technology Assessment in Subarctic Ontario (TASO) is an interdisciplinary research program established at McMaster University to undertake long-term research in anticipation of resource development in Northern Ontario over the next ten to twenty years. The project focusses on the economic, social and environmental impacts of potential hydro-electric energy projects for the major river systems draining into James Bay and Hudson Bay. Two sample projects are cited as examples of TASO studies.

Algonquian People and Energy Development in the Subarctic: "Algonquian peoples of Canada have historically demonstrated their ability to develop leaders for tasks that require the suspension of the egalitarian ideal.... Beginning in the late 1960s, new leaders developed skills in protesting, and then in negotiating with governments and hydro-electric development corporations. While some of these skills were learned by these individuals in the course of their residential schooling, I argue that there is an important continuity in leadership styles and skills that stems from their cultural traditions of trading captains, and before them, other task-defined leadership roles." (*Abstract* in Preston, 1983)

Women and Work in Moosonee and Moose Factory: "The objective of this research project on women and work is to discover the roles of women in managing and mediating familial relations and economic involvements, including public and domestic employment and unemployment for women and men.... [We] examine how the changing opportunities for employment - including the traditional harvest sector, wage employment, household work, and no employment - affect and are affected by the roles that the women of these communities play in managing social relations." (Blythe, Brizinski, Preston, 1985, pp. 3-4)

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* See also descriptive inventory of the Great Lakes region and Ontario.

Social Implications of James Bay Hydro-electric Developments (ea, ccr, ef)

Geographical location: James Bay Region, Quebec

Undertaken by: McGill Program in the Anthropology of Development

Years: 1972 - ongoing

Contact:

Richard F. Salisbury
Dean, Faculty of Arts
McGill University
853 Sherbrooke St. West
Montreal, Que. H3A 2T6

Description:

"This report tries to bring together what is now known about the social life of Indians and white people in the James Bay region of Quebec and to look at it in the light of our knowledge of what development has involved in other places, in Canada and overseas. It analyzes what would probably happen by 1980 if there is no big hydro-electric project, with the population increasing, children getting more education, and mining and forestry staying as they now are. It then takes the plans of the James Bay Development Corporation, as they have developed up to May 1972, and sees how they would alter life in the area. It considers hunting, wage work, education and the place of towns. The major finding of the study is that this is one of the last areas of North America where native people have been able to successfully continue a hunting way of life, without the young people migrating away to big cities for work. But hunting cannot support many more people than it now does.... Unless the native people of the North immediately plan how to meet this crisis, the future will be black; the hydro-electric project could help to solve the crisis, but only if it is adapted to meet Indian needs, and only if Indians themselves participate in the planning. Even if the native people do decide to participate in the hydro-electric project, they should continue to plan for what life would be like after 1980, when construction would be almost over." (*Summary* in Salisbury, et al., 1972a)

"These recommendations, although they are not stated explicitly in the text, appear to us to follow directly from the analysis contained in it....

"That Indians be involved to the maximum extent possible in the long term planning for the region ... It is a matter of urgency to include Indians in the regional structure contemplated ... to settle the question of territorial rights." (*Recommendations* in Salisbury, et al., 1972a)

See Bibliography: Brelsford, 1983; Feit, 1971a, 1971b, 1980; LaRusic, 1971, 1979, 1982; LaRusic, et al., 1979; Salisbury, 1976, 1982, 1986; Salisbury, et al., 1972a, 1972b; Scott, 1979, 1982, 1983, 1984.

Resource/Environmental Enhancement and Conservation

Information Necessary for Operation of the Hunting, Fishing and Trapping Regime in the James Bay and Northern Quebec Agreement (ll)

Geographical location: Northern Quebec

Undertaken by: Environment Canada

Year: 1979

Contact: Pierre Marchand
Environment Canada
Quebec Region
Corporate Affairs Branch

Description:

Three studies were completed on the Cree, Inuit and Naskapi respectively. The Cree study concluded that there were four high priority information needs, in the following order:

"1. Monitoring of wildlife kills: a) new monitoring of native harvests of wildlife ... b) continued and improved monitoring of wildlife kills by sportsmen;

2. Expanded biological studies of productivity and/or continued monitoring of population trends of the most important and intensively used species previously identified;

3. A synthesis of existing and still to be gathered social, cultural and economic data on the Cree communities, with the aims of indicating the possible futures of harvesting, and of defining means of operationalizing the principle of minimal impacts of the regime and of development on the Cree;

4. Gathering, reviewing, synthesizing and implementing native and non-native expert advice on: a) predicted impacts of developments; and b) possible preventive and remedial measures." (Feit and Scott, 1979, pp. 43-44)

See Bibliography: Feit and Scott, 1979; Wilkinson, 1979.

Environmental Assessment

Impacts of the James Bay Hydro-electric Project (II)

Geographical location: Chisasibi area, La Grande River and estuary, James Bay, Quebec

Undertaken by: Fikret Berkes

Years: 1975 - ongoing

Contact: Fikret Berkes
Institute of Urban and Environmental Studies
Brock University
St. Catharines, Ont. L2S 3A1

Description:

"Flow alterations related to hydro-electric development have affected both the fish stocks and the Cree Indian subsistence fishery in the lower La Grande River, northern Quebec. Evaluated against several years of baseline data, the initial biological impact of the project on fish populations, mostly whitefish (*Coregonus clupeaformis*) and cisco (*C. artedii*), appeared to be relatively small. Nevertheless, fishing activity in the lower river and the estuary largely ceased from 1979 to 1981, due to physical modifications of traditional fishing areas and other social and economic effects related to the hydro project. Some fishermen modified their methods and continued harvesting in the affected area, but others abandoned the affected area and fished lakes and rivers along the recently constructed road network. It is concluded that earlier impact assessments fell short of predicting these impacts." (*Abstract* in Berkes, 1982b)

See Bibliography: Berkes, 1981a, 1982b; Berkes, ed., 1985.

Fort George Resource Use and Subsistence Economy Study (ll, ccr)

Geographical location:	Chisasibi (formerly Fort George, James Bay, Quebec)
Undertaken by:	Grand Council of the Cree (of Quebec)
Years:	1973-1976
Contact:	Martin S. Weinstein 205 1st St., Apt. 214 Courtenay, B.C. V9N 1A5

Description:

"The objectives of this study were to document the subsistence economy of the Fort George community, to determine the extent of dependence of the native people of Fort George on all areas within their hunting lands (which extend from the islands and sea ice of the James Bay coast 500 kilometers into the interior of Quebec), and to analyze the adaptations which they have made to recent changes in their lives. To accomplish these aims the levels of harvests of different animal resources were established, the food they provide to the community was estimated, and the specific land use patterns relating to these harvests were determined. The intent of the study was to provide the courts, the natives' legal and technical support groups, the Cree leaders, and government representatives with a basis for an assessment of the impacts of the James Bay Hydro-electric Project on the subsistence economies of the Fort George native people." (Weinstein, 1976, p. 4)

"The subsistence economy of the Fort George native community is characterized by a diversity of species harvested.... The maintenance of Fort George's subsistence economy ... requires a high degree of animal reliability and predictability. Hunters base their hunting strategy on their knowledge of the behaviour of the resource species and information about local animal population size and movements during the hunting period. For this reason the unpredictability of the behaviour of important resource species, at both the individual and the population levels, which would be an effect of major environmental disturbances or habitat changes in the territory, is a particular threat to the hunting economy of the native people." (Weinstein, 1976, pp. 19-20)

Aboriginal Land and Resource Agreements

Subsistence Protection and Local Participation Mechanisms: Comparisons of James Bay, Quebec, and Alaska (ccr, ef)

Geographical location:	James Bay, Quebec, and Alaska
Undertaken by:	Taylor Brelsford
Years:	1980 - continuing
Contact:	Taylor Brelsford University of Alaska P.O. Box 384 Dillingham, Alaska USA 99576

Description:

The question to be examined in this research is whether and to what degree local participation mechanisms are adequate to the task of maintaining the relative autonomy of local subsistence systems. The author asks: Are these mechanisms effective, or have the processes of economic integration and political encapsulation conspired to rob village residents of even relative control over the development of their society and economy?

The issues in local representation are whether and how subsistence interests enter the advisory process, and the legitimacy of the supra-local advisory structures and processes. A controlled comparison of the range of local participatory and consultative mechanisms operating in the formulation and implementation of wildlife management and resource development policy is undertaken to identify the dynamics of a general process.

See Bibliography: Brelsford, 1980, 1983.

James Bay Cree Self-governance of Lands and Wildlife after the James Bay Agreement (ccr, ef)

Geographical location:	James Bay Region, Quebec
Undertaken by:	Harvey A. Feit
Years:	1980 - ongoing
Contact:	Harvey A. Feit Department of Anthropology McMaster University Hamilton, Ont. L8S 4L8

Description:

The present research analyzes the effects of those provisions of the James Bay and Northern Quebec Agreement (JBNQA) which were intended to reduce and remedy the impacts which previous government interventions have had on James Bay Cree wildlife use and management practices. More generally, the research analyzes the interactions between a regionally encapsulated indigenous population which extensively uses and manages local wildlife resources and senior governments which claim and exercise management responsibilities with respect to the same resources. It extends previous research by analyzing the actual operation of JBNQA provisions and their impacts on Cree practices.

The significance of the research is its extended demonstration and analysis of the linkages between local or regional societies which depend extensively on wildlife resources and national or international institutions, and its demonstration that local and regional societies actively seek broad political means to alter the linkages and the constraints placed upon them by the macro-level institutions. Its theoretical approach is one that has been labelled practice theory.

See Bibliography: Feit, 1980, 1984, 1985, 1986a, 1987a.

Modes of Production and Guaranteed Annual Income in James Bay Cree Society (ll)

Geographical location: Paint Hills (Wemindji), Quebec

Undertaken by: Colin H. Scott

Years: 1975-1979

Contact: Colin H. Scott
Department of Anthropology
McGill University
Montreal, Que. H3A 2T7

Description:

This study "analyzes the consequences for the domestic mode of production of the Cree-Montagnais of Quebec of its successive articulations with the Euro-North American capitalist economic and state formation. By examining the historical and ethnographic literature, and on the basis of our own case study at Paint Hills of the periods immediately prior to and following the implementation of a guaranteed income for hunters, we demonstrate the persistence of traditional relations with the larger society. We are led to reject the idea that relations with the capitalist economy and the state lead *a priori* to the destruction or attrition of traditional relations of production. We show rather that at each step of articulation with, and dependence on, the capitalist economy and the state, relations of production in a domestic mode decisively structured the form and consequences of articulation." (*Abstract* in Scott, 1979)

See Bibliography: Scott, 1979, 1982, 1984.

Resource Allocation

James Bay and Northern Quebec Native Harvesting Research Project (aa)

Geographical location: James Bay Region, Quebec

Undertaken by: Grand Council of the Cree, Northern Quebec Inuit Association, Government of Canada, Government of Quebec, Hydro-Quebec, James Bay Corporations through the James Bay and Northern Quebec Native Harvesting Research Committee

Years: 1974-1985

Contact: Ian Juniper, Secretary
James Bay and Northern Quebec Coordinating Committee for Hunting, Fishing and Trapping
800 de Maisonneuve Blvd. East, 15th floor
Montreal, Que. H2L 4L8

Description:

As part of the negotiations of the James Bay and Northern Quebec Agreement, an agreement was reached among all parties to fund and conduct joint studies of present levels of wildlife harvesting by the Cree and Inuit of Northern Quebec. This information was necessary as a basis for negotiating guaranteed levels of harvesting for the beneficiaries of the Agreement. A joint research committee was created to conduct the study. For the Cree, data were gathered on

harvests of 32 species groups from 1972-1973 to 1978-1979 by means of diary/calendars and 4,524 questionnaire/interviews conducted at the community level.

Community harvest estimates were proportionally projected on the basis of achieved returns and stratified variables. There was a maximum of participation by native people and interviews were conducted in the Cree language. Internal checks on response consistency were made as well as comparisons of study results with other available similar data. The results of this study were judged by the committee to have an acceptable level of reliability.

See Bibliography: Boyd, 1979; Gagnon, 1982; James Bay and Northern Quebec Native Harvesting Research Committee, 1976, 1978, 1979, 1981, 1982, 1983.

Conflict and Conflict Resolution

Self-regulation and Common Property Resources in the James Bay Region (ll)

Geographical location: James Bay Region, Quebec, principally Chisasibi

Undertaken by: Fikret Berkes

Years: 1980 - ongoing

Contact: Fikret Berkes
Institute of Urban and Environmental Studies
Brock University
St. Catharines, Ont. L2S 3A1

Description:

This study deals mainly with a "family of hybrid approaches: that which strives to combine self-regulation with regulation from the outside, and scientific resource management with control at the local level. The study will attempt to evaluate the conditions under which one alternative approach or the other may be more appropriate as the major management mechanism for the task at hand. The assumption here is that the desired outcome (the task) is the pursuit of optimum natural productivity of living resources.

"The approach will be based on the case study of the Cree Indian people of eastern James Bay and their resources. First, traditional management techniques and practices will be discussed. Second, the trapline system, as the key "traditional" institution in the land tenure system, will be assessed further. Third, the conditions under which the native land tenure system tends to break down will be evaluated. Next will be an analysis of the appropriate management approaches, by animal group, leading to a discussion of prospects and possibilities of management by design, as opposed to management by outside regulation." (Berkes, 1981b, pp. 166-67)

See Bibliography: Berkes, 1981b, 1982a, 1984, 1987; Berkes and Freeman, 1986.

Wildlife Resources and Their Utilization by the Cree People of the James Bay Area: A Regional Resource Planning Study (rec, ra)

Geographical location: James Bay Region of Quebec, eight Cree communities, principally Chisasibi

Undertaken by: Cree Regional Authority, Chisasibi Band, Fikret Berkes

Years: 1978-1981

Contact:

Fikret Berkes
Institute of Urban and Environmental Studies
Brock University
St. Catharines, Ont. L2S 3A1

Description:

This project produced a series of studies and reports on fisheries productivity and management, waterfowl resources, caribou and moose populations in the James Bay Region. Several conclusions of the fisheries management study may serve as an indication of the scope of the project studies of various species groups:

"1. Previous experience in the North is that development in general, and fishery management in particular, have not benefitted the native peoples. This chapter is a discussion of management practices and policy in the territory (a) to conserve the stocks; (b) to assure a continued high return to the native people; and (c) to provide just allocations for all users of the resource;

2. Problems in the long-term conservation of the stocks include (a) high mercury levels in some species; (b) impacts of various aspects of development; and (c) the projected population increase in the territory....;

3. The principle of conservation may be implemented by using an operational definition of over-fishing based on bio-economic parameters." (Berkes, *Fisheries Management in the James Bay Territory*, unpublished report, pp. 55-56)

See Bibliography: Berkes, 1981c, 1982b.

Local-level Resource Use and Management

Small-scale Fisheries and Resource Use

Geographical location: Chisasibi (formerly Fort George), James Bay, Quebec

Undertaken by: Fikret Berkes

Years: 1974-1982

Contact:

Fikret Berkes
Institute of Urban and Environmental Studies
Brock University
St. Catharines, Ont. L2S 3A1

Description:

"Cree Indians of Fort George, James Bay, northern Canada, maintain a large and successful subsistence fishery. Methods used in the fishery, seasons and locations of catch, and yield levels were studied, together with the population biology of two sea-run *Coregonus* species, cisco and whitefish, that dominate the catch. The fishery was characterized by a high degree of order, social regulation of the fishing effort and the gillnet mesh size, and practices that were identified as adaptations to the subarctic ecosystem. Fishing methods used permit the Cree to control the magnitude of the harvest and the species and size composition of the catch. There is

evidence that fishers can alter the scarcity/abundance patterns of the fish stocks, and have a biologically measurable effect on the populations." (*Abstract* in Berkes, 1977)

See Bibliography: Berkes, 1977, 1979, 1981c, 1987.

Indian Harvest of Geese at James Bay

Geographical location: Coasts of James Bay

Undertaken by: Canadian Wildlife Service

Years: 1971-1973

Contact: Steven G. Curtis
Canadian Wildlife Service
Environment Canada
Ottawa, Ont. K1A 0E7

Description:

"Some 5,500 Swampy Cree Indians live along the James Bay coast and their welfare is closely linked with the migratory habits of the geese.... For perhaps no other group of North American Indians has the waterfowl harvest assumed a similar degree of importance.... To date there has been no evidence of an over-harvesting of geese by the Indian people, and it is not illogical to consider the Indian harvest as natural predation on the geese." (Curtis, 1973, pp. 1-2)

"This report briefly discusses the traditional spring hunt; methods of estimating annual harvest of geese by Indians; the patterns of spring breakup as it relates to goose kill; and legal and enforcement problems related to Indian waterfowl hunting. The report is concluded by recommendations on possible future CWS involvement." (Curtis, 1973, p. 2)

See Bibliography: Curtis, 1973.

Cultural Ecology of Waswanipi Cree Game Managers (ef)

Geographical location: Waswanipi, Quebec

Undertaken by: Harvey A. Feit

Years: 1968-1987

Contact: Harvey A. Feit
Department of Anthropology
McMaster University
Hamilton, Ont. L8S 4L8

Description:

The research focusses on Cree Indians as wildlife managers through a study in ecological anthropology which places major emphasis on the analysis of cultural knowledge and human decision-making. Substantively, the study involves the collection and analysis of four kinds of data: field data on Waswanipi Cree cultural belief systems in a historical context; long-term data on the wildlife resource populations of the region; socio-economic data on the changes in hunting; and ethno-historical data on the responses of hunters to changing historical conditions.

The substantive findings are used to test the hypothesis that Waswanipi Cree hunters' knowledge constitutes a system for wildlife resource management which is effective at managing wildlife resources. The study evaluates the variations in resources and hunting that have occurred over the past seventy years and indicates how present hunting activities developed out of cultural traditions while at the same time responding to changing conditions.

See Bibliography: Feit, 1971a, 1973, 1978, 1984, 1986a, 1986b, 1987a, 1987b.

Subsistence Strategies on the Hudson Bay Lowlands: Contemporary and Ethno-historical Perspectives

Geographical location: Hudson Bay Lowland communities, Ontario

Undertaken by: Edward S. Rogers and Mary B. Black

Years: 1958 - ongoing

Contact:
Mary B. Black
Department of Anthropology
McMaster University
Hamilton, Ont. L8S 4L8

Description:

An attempt is being made to examine the utilization of resources by the Cree of the Hudson Bay Lowlands based on the Hudson's Bay Company records and data collected in the 1960s, not only as to the types of resources procured seasonally, but also in relation to the spatial arrangement of Cree families over the landscape and their movement through the seasons.

See Bibliography: Black, 1971; Rogers, 1962, 1963a, 1964b, 1967, 1969a, 1969b, 1972, 1983; Rogers and Black Rogers, 1976; Rogers and Smith, 1982.

Survey of Native Harvest of Waterfowl and Other Wildlife in Communities in Northern Ontario

Geographical location: Communities of Big Trout, Kasabonika and Wapekeka

Undertaken by: Canadian Wildlife Service in cooperation with the Ontario Ministry of Natural Resources

Years: 1984-1985 (field work); report under review

Contact:
R. K. Ross
Canadian Wildlife Service
Ontario Region
1725 Woodward Drive
Ottawa, Ont. K1A 0E7

Description:

Native interviewers contacted as many hunters as possible in each of the three communities and asked about their hunting success during the period 1 December 1983 to 30 November 1984. Particular attention was paid to their waterfowl harvest. The results were summarized by season and compared between communities. As also noted in an earlier survey, ducks formed a much

larger portion of the bag than they did in the harvest by coastal Cree. There is, however, a considerable tradition of inland hunters going to the Fort Severn area for goose hunting.

A draft report on this work has been completed and is being reviewed.

Systems of Signification and Material Systems of Wemindji Cree Hunters

Geographical location: Wemindji, Quebec

Undertaken by: Colin H. Scott

Years: 1977 - ongoing

Contact:
Colin H. Scott
Department of Anthropology
McGill University
Montreal, Que. H3A 2T7

Description:

This study "examines the relationship of hunting and exchange activities to the signs by which they are represented among the northern Quebec Cree of Wemindji. The activities of material production are generated in the dialectic between experience and Cree structures of thought. Reciprocity amounts to a paradigm for Cree thought, informing models of both ecological and social relations. The effect of material relations on structural transformations is viewed in discursive genres of several levels, ranging from everyday dialogue to mythico-ritual symbolism. Special attention is paid to four categories of 'persons' which have been of consuming interest to the natural and social science of the Crees: Canada geese, black bears, Crees, and 'White Men'." (*Abstract* in Scott, 1983)

See Bibliography: Scott, 1983, In press.

Boreal Foraging Strategies and Adaptive Management (ef)

Geographical location: Muskrat Dam Lake, Ontario

Undertaken by: Bruce Winterhalder, with A. Theodore Steegman, Jr.
Boreal Forest Adaptations Project
State University of New York, Buffalo

Years: 1975-1976

Contact:
Bruce Winterhalder
Department of Anthropology
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Chapel Hill, NC
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Description:

An "attempt to understand systematically how a Cree makes foraging decisions when harvesting food-producing resources." (Winterhalder, 1983b, p. 201)

"The theory derives from evolutionary ecology, particularly from optimal foraging theory.... I have applied it with two complementary goals in mind: (1) use of the theory as a heuristic research procedure for analyzing the adaptive articulation of a particular group with its local habitat; and (2) use of data on Cree foraging to evaluate the applicability of this kind of theory to human foragers in general. Specifically, the problems are these: Can this theory guide productive research? Does it generate accurate predictions about the ways in which human foragers will behave in specified environmental circumstances?" (Winterhalder, 1983b, p. 202)

"Cree foraging decisions respond to a complex set of fluctuating factors, each with a different period and degree of regularity. In the aggregate these factors are nonrecurrent over a hunter's lifespan. Consequently, the hunting pattern of a Cree is always novel to some degree. The diet breadth model provides evidence that the strategic rules used by a Cree forager are quite simple. At the same time, gathering, assessing, and updating the environmental information and developing the skills necessary to apply the rules require extensive experience. Cree foraging is the knowledgeable application of simple rules in an always changing and immensely intricate setting." (Winterhalder, 1983b, p. 237)

See Bibliography: Smith, 1983; Steegman, Hurlich, Winterhalder, 1983; Winterhalder, 1977, 1980, 1981a, 1981b, 1983b, 1983c.

External Factors Influencing Local-level Management

James Bay Cree and the State (aa, ccr)

Geographical location: James Bay Region, Quebec

Undertaken by: Harvey A. Feit

Years: 1976 - ongoing

Contact:
Harvey A. Feit
Department of Anthropology
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Hamilton, Ont. L8S 4L8

Description:

Present research is based on a long-term study of James Bay Cree self-governance of lands, wildlife and community within the historical contexts of the penetration of a liberal welfare state, and the implementation of the James Bay and Northern Quebec Agreement. The aim is to synthesize an account of the reproduction and transformation of structures and practices of both the Cree and state administrations over an 80-year period.

The data on James Bay Cree history indicate that there may be important local-level initiatives taken, and that the impacts of macro-institutional interventions in a given community cannot be assumed to be generally and simply determined externally, given the local productive organization, and independent of 1) the economic and political resources of that community; 2) the specific cultural values of that community; and 3) the specific decisions and actions taken by the local population.

See Bibliography: Feit, 1979, 1980, 1982, 1985, 1986a, 1988, 1989.

Religious Ideology and Mode of Production of the Mistassini Cree Hunters (II)

Geographical location: Mistassini, Quebec

Undertaken by: Adrian Tanner

Years: 1969-1976

Contact: Adrian Tanner
Department of Anthropology
Memorial University of Newfoundland
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Description:

Tanner's *Bringing Home Animals* discusses the ecology of hunting, the process of production, the organization of social space, the ritualization of space, the rites of hunting divination, the ritual relations between hunters and game animals killed, the respect for the animals killed, and land tenure at Mistassini.

The author shows that "in its practice Cree religion has a direct relationship to the common sense reality of material production, and to the organization of social relations. However, the nature of this connection is neither that of a direct reflection of real practical problems of material and social production, nor is it merely a covering-over of the realities and problems." (Tanner, 1979, p. 210)

"Much of the religious thought of the hunters is concerned with the state of the natural environment, with how the environment may be controlled, and with the reason for failure when hunters are unable to exercise that control. The task of material production is treated as if it were something akin to a series of friendly exchanges between the hunters and each of the animals' masters.... This viewpoint can be seen as an ideology which hides the contradiction between the use of a strategy of environmental control, in the form of hunting territories, rotation of land and exchange of hunting privileges, and the continual preparedness for starvation times and the consequent discontinuities in the land use pattern." (Tanner, 1979, pp. 211-12)

See Bibliography: Tanner, 1971, 1973, 1979, 1983.

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SECTION IV

LOCAL-LEVEL RESOURCE MANAGEMENT STUDIES AND PROGRAMS: THE GREAT LAKES REGION AND ONTARIO

by

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1. OVERVIEW OF KEY RESOURCE ISSUES

Three major themes are found in local-level resource management projects and programs in the Great Lakes Region and Ontario: 1) the rehabilitation of degraded and overused ecosystems; 2) the allocation of resources in intensively used systems; and 3) the introduction of social concerns into the current bioeconomic paradigm of resource management. Although there are overlaps, the thirteen studies and programs reviewed in part 2 of this section fall into these three areas:

FIGURE 2

Ecosystem Rehabilitation	Allocation	Social Dimensions of Resource Use
Great Lakes Ecosystem Rehabilitation	Strategic Land Use Planning Process	Technology Assessment in Subarctic Ontario
Coastal Management Studies	Royal Commission on the Northern Environment	Social Assessment of Fisheries Resources
Community Fisheries Involvement Program	Ontario Native Fishing Agreement	Small-scale Fisheries
Strategic Planning for Ontario Fisheries	Strategic Planning for Ontario Fisheries	Strategic Planning for Ontario Fisheries
Synthesis of Canadian Ecosystem Studies	Synthesis of Canadian Ecosystem Studies	Synthesis of Canadian Ecosystem Studies
Volunteer Stewardship	Fishery Allocation	

Ecosystem Rehabilitation

The Great Lakes Ecosystem Rehabilitation (GLER) study, the Coastal Zone Management studies, the Volunteer Stewardship study, the Community Fisheries Involvement Program (CFIP) and the Strategic Planning for Ontario Fisheries (SPOF) are concerned with the rehabilitative management of Great Lakes ecosystems, especially from the point of view of fisheries. Loftus (1976) traces the origins of the current rehabilitative management approach to the Symposium on Salmonid Communities in Oligotrophic Lakes (SCOL) held in 1971, a major exercise in synthesis using a case history approach. The Symposium promoted the use of fish species and communities as indicators of ecosystem quality. This approach to water quality has been replacing toxicology and sanitary engineering approaches which are based on establishing and enforcing chemical criteria for water quality, whether these make sense or not (National Research Council and Royal Society of Canada, 1985). The Great Lakes region is perhaps unique in Canada in that many studies and programs utilize an ecosystem approach to resource management. Lee, et al. (1982) showed that there had been no less than ten such approaches at that time in the Great Lakes area (Figure 3).

The ecosystem approach is basically biological in origin, but the inclusion of social factors among ecosystem processes has turned it into a powerful tool for policy-making. Using a stress-response analytical framework, the impact of human activities on resources and ecological systems in general has been brought into consideration (Francis, et al., 1985). There is a local-

TEN ECOSYSTEM APPROACHES TO THE GREAT LAKES

APPROACH	PRIMARY EMPHASIS	SCALE OF PROPOSED ACTIVITY	MANAGEMENT UNIT	SCALE OF ULTIMATE ASSESSMENT	MANAGEMENT TOOLS[a]	COMPARATIVE APPROACH TO MANAGEMENT	CONSIDERS LAND USE EFFECTS	CONSIDERS PUBLIC INVOLVEMENT[b]	OFFERS ADMIN STRATEGIES	PLANNING STAGE
I.J.C.'s Ecosystem Approach	Environmental management to improve ecosystem quality	Great Lakes Basin	Undetermined	Great Lakes Basin	Maps Models Monitors		●	●	●	POLICY LEVEL
Great Lakes Megalopolis	Urban Planning	Great Lakes Megalopolis	Neighbourhood to Megalopolis	Megalopolis	[c]	●	●	●	●	
Rehabilitating Great Lakes Ecosystems	Great Lakes ecosystem rehabilitation	Bay of Quinte Green Bay	Undetermined	Lake	Models H/S Monitors Manages	●	●	●	●	STRATEGY LEVEL
Federal-Provincial Strategic Planning for Ontario Fisheries	Fisheries management to maintain northern lakes and rehabilitate southern lakes	Lake	Probably Ministry of Natural Resources Districts	Lake	Models H/S Monitors Manages	●		●	●	
Lake Trout Indicator for Management	System level monitoring for oligotrophic lake ecosystem rehabilitation	Lake	Undetermined	Lake	Models H/S Monitors	●				
Ian McHarg's Environmental Planning Method	Environmental land and water use planning	Toronto Harbour (inner and outer)	Bay component	Bay component	Maps [d] [e] [f]		●	●		TACTICS LEVEL
Int. Ref. Group on Great Lakes Pollution from Land Use	Generation of information on land based pollution to rehabilitate the Great Lakes	Individual diffuse pollution source in the G.L.Basin	Relevant jurisdictions at all government levels	Watershed, Lake, Basin	Maps Models H/S Monitors	●	●	●	●	
Environmentally Sensitive area Planning in Ontario	Protection and management of Ontario's small scale natural areas	Regional municipality	Single terrestrial ecosystem	Regional municipality, province	Maps Models S Monitors Manages	●	●	●	●	
Great Lakes Basin Eutrophication Models	Quantification of eutrophication processes for management purposes	Bay, Lake	Not applicable	Bay, Lake, Basin	Models H Monitors	●				AVAILABLE TOOLS
Stress-Response Environmental Information	Information system to link human use to ecosystem response	Any scale of ecologically sound unit	Any ecologically sound unit	Any scale of ecologically sound unit[g]	Maps Models Monitors Manages	could be used for either	●			

Figure 3: Initial overview. a) Four management tools are considered here: mapping elements of ecosystem structure; modelling ecosystem dynamics (H= "hard" or quantitative, S= "soft" or qualitative); monitoring indicators of ecosystem health or resource quality; use of experimental management techniques to achieve ecosystem understanding. This group of criteria represents the basic structural elements of an ecological approach to scientific information. Those which are recorded for each approach indicate the major emphasis or emphases as specified or implied in the key reference(s). b) Consideration of public involvement includes philosophical considerations, program formulation and review of programs completed. c) A monitoring program is recommended, but variables to be monitored are not specified. d) Qualitative modelling has been carried out, but for ecosystem components which have not been assessed for their relative contributions to the well-being of the ecosystem as a whole. e) An extensive monitoring program is recommended, but the proposed variables are components which have not been assessed in terms of their whole ecosystem contribution, synergistic effects or sufficiency. f) Management recommendations are given, including recommendations for Toronto Island as an aquatic ecosystem, but not for the Inner and Outer Toronto Harbour. g) Any scale of ecologically sound unit for which information is available. (Lee, et al., 1982)

level management dimension to these ecosystem approaches. It has been argued that relatively informal user-group associations at the level of Great Lakes sub-systems (e.g., Long Point Bay) may be practical and useful (Francis, et al., 1985). However, this theme is yet to be developed systematically. More directly relevant to local-level management, various researchers have been studying interactions among actors, that is, the ecology of institutions (Francis, 1986) and the ecology of user groups (Berkes, 1984; Berkes and Pocock, 1983).

Allocation of Resources

Resource allocation issues have been addressed by the Strategic Land Use Planning Process (SLUP), the Royal Commission on the Northern Environment (RCNE), the Ontario Native Fisheries Agreement, SPOF, and the fishery allocation studies of Regier and Grima (1985). In each case, the basic issue is that human wants have outstripped the supply of resources available, forcing managers to investigate alternative and perhaps more widely acceptable ways in which resources may be shared. To the extent it strives to do this, the Social Assessment of Fisheries Resources (SAFR) exercise is also concerned with allocation. The study on Small-scale Fisheries and Common Property Resources necessarily addresses allocation because different groups of users tend to be in conflict everywhere, including in the Great Lakes. The allocation issue is fertile grounds for the use of local-level management approaches. However, in the Great Lakes area, allocation issues inevitably have regional and international (as well as local) dimensions, thus necessitating the involvement of central authorities. Yet the balance between state-level and local-level management has been elusive. Government programs such as SLUP and RCNE have involved much public participation in an attempt to balance top-down decision-making with local-level decision-making.

Social Dimensions of Resource Use Issues

The social dimensions of resource use have been addressed by the Technology Assessment in Subarctic Ontario (TASO), the SAFR and the SPOF exercises. The first has a major anthropology component, and emphasizes the social/cultural dimensions of technology assessment and social impact assessment. The second tends to be dominated by economists seeking resource use approaches which transcend the traditional dependence on market values. "Total value framework" (TVF) concepts, incorporating non-market values such as social and cultural values, existence values and other "unrevealed values," are being sought as a more solid basis on which to manage resources. The SPOF exercise aimed at explicit allocation policies and grappled with the problem of establishing priorities among competing uses of the fishery resource (Loftus, et al., 1978). In extending the SPOF approach, Regier (1981) linked allocation policies to broader policy goals of resource management. He argued that there were three interrelated groups of policy goals, as shown in Figure 4, and that different kinds of fisheries tended to be managed according to different kinds of goals:

1. The larger, mostly offshore, marine food and industrial fisheries are managed primarily by the policy of "material well-being";

2. Smaller, nearshore marine and freshwater food fisheries as well as most recreational fisheries, both marine and freshwater, and also the native peoples' fisheries are all primarily addressed through the goal of "cultural opportunity," which also involves maintaining ecosystems in a productive state;

3. Endangered species and fish of parks, especially wilderness parks, are likely to be managed according to the goal of "environmental harmony." Also, as in Ontario, the management agency may have set preservation of the resource as a first priority for all fisheries management options.

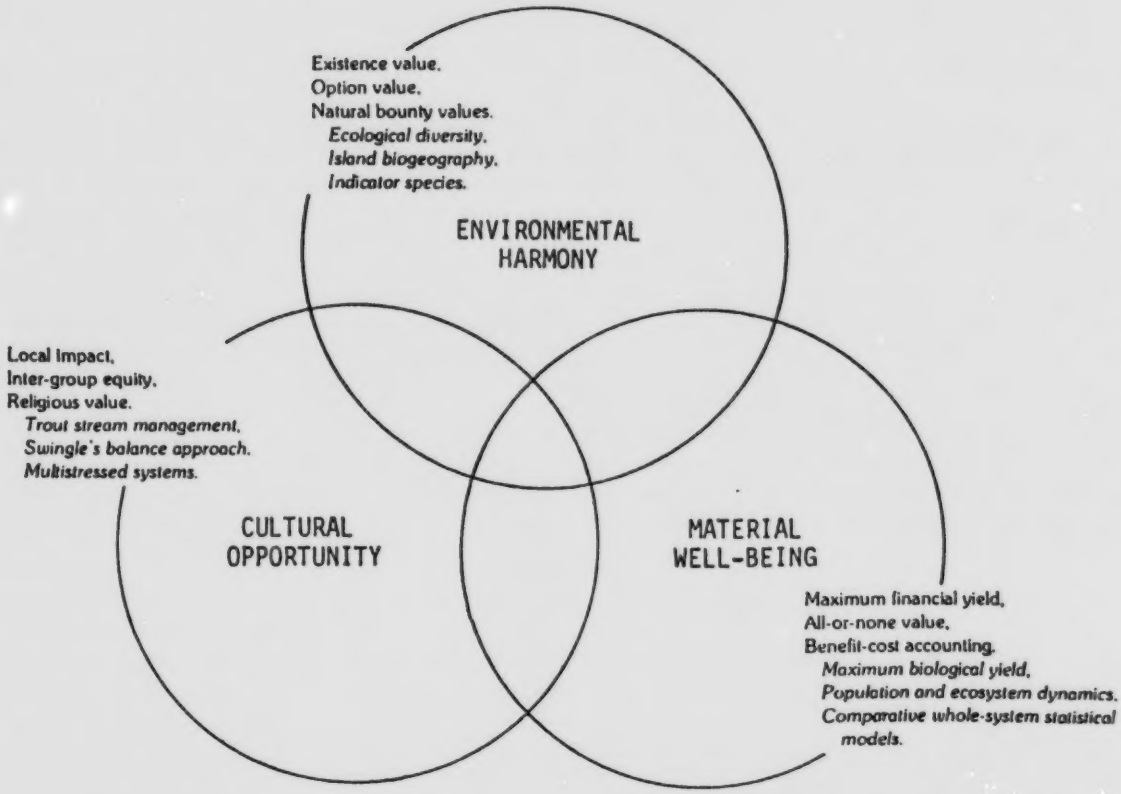

Figure 4: Three major policy goals showing some inevitable overlap in practice. The six terms with each circle refer to economic approaches and ecological approaches (in italics) as applied in management initiatives focussed on the relevant particular policy goal.

The Small-scale Fishery study emphasized some of the major social concerns with the current bioeconomic theory of resource management, and proposed greater dependence on local-level management and co-management instead of the enforcement rules and regulations promulgated by outside managers which make little sense to the users of the resource (Berkes and Pocock, 1981; Berkes, 1985a). The Fishery Allocation study also addressed social "indirect allocation" of resources which affect sensitive uses such as wildlife habitat, drinking water, fisheries and recreation (Regier and Grima, 1985).

The SPOF exercise is of special interest partly because it cuts across all of the major themes in Great Lakes research discussed above. Perhaps because of its broad scope, initially an advantage, SPOF seems to have been superseded over the past decade by programs of narrower focus. The Synthesis of Canadian Great Lakes Ecosystem Studies project, most appropriately, also cuts across the three themes.

The emphasis in the Great Lakes studies differs from the emphasis in the studies on the Atlantic and Pacific coasts and the North. Perhaps most notably, these Great Lakes area studies do not seem to focus on the established social science disciplines concerned with resource use, such as Fisheries Economics and Maritime Anthropology *per se*. It is difficult to find examples of major contributions to these fields from the Great Lakes area. On the other hand, the studies and programs summarized here are sophisticated inte-disciplinary applications of the ecosystem concept and of a broad theory of allocation. The relatively high degree of development of the ecosystem approach and allocation theory in the Great Lakes area may be partly attributable to the fact that coastal ecosystems are more heavily degraded and intensively used here than elsewhere in Canada.

In the Great Lakes, examples of resource collapse date back not to a decade or two but to the turn of the century, as in the cases of the Atlantic salmon of Lake Ontario and sturgeon of Lake Erie (Regier and Hartman, 1973). There is no open ocean beyond the coastal zone to dilute domestic and industrial wastes and to provide additional assimilative capacity. Not only are there different groups of commercial fishermen competing over the fish resource, but there are also substantial numbers of fishermen with native rights, and a very large recreational fishery, vocal and politically powerful. With the possible exception of some Atlantic and Pacific estuarine areas (e.g., the St. Lawrence and the Fraser), the Great Lakes area has a greater population density and more intensive industrial and recreational utilization of the coastal zone than anywhere else in Canada.

It has been said that islanders perceive their limits more easily than do continental peoples. Similarly, it can be said that peoples of enclosed coastal zones (lakes, major rivers, estuaries, inland seas) perceive their limits more easily than do peoples of the coastal zones of wide-open oceans. Perhaps the major significance of Great Lakes regional studies for coastal zone management elsewhere in Canada is that the Great Lakes have already experienced many of the future resource use problems of other parts of Canada. Thus it makes sense that some of the major tools used to deal with greater environmental degradation and more intensive use of resources are being developed in the Great Lakes area. These include various ecosystem approaches, resource allocation theories, user-group analyses and sustainable redevelopment. These interdisciplinary frameworks developed in the Great Lakes area are likely to be applicable to other regions in Canada and elsewhere.

Despite the lead in certain areas of research and management as indicated above, the study and applications of local-level resource management approaches have not made much headway in the Great Lakes region. Part of the reason for this may be the predominantly urban nature of the region, and the intensity of resource use conflicts. That is, there are hardly any isolated communities, and hardly any opportunities for stable local-level management.

Nevertheless, the Ontario Ministry of Natural Resources (OMNR) has been moving since the early 1970s toward a planning and management system which involves user participation in

decision-making. The SLUP program has moved into strategic resource management planning, a "bottom-up" or local-level planning exercise. The Fisheries Branch of OMNR was ahead of the other branches with the SPOF exercise of 1974-1980. SLUP appears to have been developed independently of SPOF. "When the fisheries people were asked and required to participate in SLUP, we felt that we were being asked to begin a process which we had completed." (K. Loftus, pers. comm.) Despite a decade of efforts, the effectiveness and success of local-level participation in OMNR decision-making, whether in fisheries or in other natural resources covered under the SLUP program, remain to be assessed.

Despite the urbanized nature of the region, communities of resource users and *de facto* examples of community-level management do exist. The basic issues of local-level resource management in the Great Lakes region are much the same as those elsewhere: top-down versus local-level decision-making; instituting co-management approaches; closing the gap between scientific resource management and traditional knowledge; problems in integrating social components into the bioeconomic management framework; and the escalating costs of implementing complex rules and regulations which do not make sense to the resource users. Each of these issues may be considered an agenda item for future research.

The thirteen studies and programs described in the following section were selected on the basis of their relevance to local-level management, with emphasis on coastal resources. The focus of this inventory is the Great Lakes area, with secondary emphasis on the rest of Ontario. The James Bay area, however, which is part of both Ontario and Quebec, is covered in Section III of this report, prepared by H.A. Feit. There are a number of studies from northern Ontario that do not fit well with the coverage of the present review, and they have been excluded from the James Bay region inventory as well. Notable among these are the Big Trout Lake project (Zimmerman, et al., 1982) and a far-reaching study by Shkilnyk (1985) on the social and environmental impacts of industrial development and the loss of local-level decision-making in the Ojibwa Indian community of Grassy Narrows.

Also excluded from the review are studies of single-resource towns and rural development outreach projects because these do not directly deal with coastal resource management. As well, detailed considerations of individual, local-level environmental management projects such as those undertaken by the Federation of Ontario Naturalists (FON) and the Ontario Federation of Anglers and Hunters (OFAH) are covered only briefly under the headings of "Coastal Management and Rehabilitation Studies" and "Community Fisheries Involvement Program." Thus, the inventory is selectively restricted to a relatively small subset of studies and programs for which references are readily available.

Many of the following studies and projects may be classified as belonging to several subject categories. A coding system indicates areas of overlap.

Headings	**Codes**
regional development planning	rdp
resource/environmental enhancement and conservation	rec
environmental assessment	ea
aboriginal land and resource agreements	aa
resource allocation	ra
conflict and conflict resolution	ccr
local-level resource use and management	ll
external factors influencing local-level management	ef

2. DESCRIPTIVE INVENTORY OF STUDIES

Regional Development Planning

Strategic Land Use Planning Process (SLUP) (rec, ra, ccr, ll)

Geographical location:	Province of Ontario
Undertaken by:	Ontario Ministry of Natural Resources (OMNR)
Years:	1972 - ongoing
Contact:	OMNR Regional and District offices; general information from the Toronto office of OMNR (see part 4, list of addresses)

Description:

"The Ministry of Natural Resources has been involved in land use planning for many years. Until recently, most of the plans prepared by the Ministry were either single purpose or short term. As a result, these plans tended to produce land use conflicts. With growing demands on the land, a new approach to land use planning was required. This new planning approach which co-ordinates Ministry land use programs is called the Strategic Land Use Planning Process." (Ontario Ministry of Natural Resources, 1980, p. 1)

It is a long-term resource planning and development exercise to provide an inventory of all the resources (including fish, wildlife and timber) under the Ministry's jurisdiction, to test the feasibility of achieving resource management targets, and to provide a forum for public comment. (Ontario Ministry of Natural Resources, 1983)

It has a major public participation component and operates at several levels: Strategic Land Use Plans, prepared for the various administrative regions of the Ontario Ministry of Natural Resources (OMNR), are statements of integrated resource use policies and their associated objectives and targets. District Land Use Guidelines are prepared within this framework. At this level in the planning process, OMNR encourages active public participation. The Regional and District Plans generally determine where OMNR resource programs will take place. Individual resource management plans such as timber management plans and lake management plans determine how particular resources will be managed, and this is a local-level planning exercise. (Ontario Ministry of Natural Resources, 1980, p. 3)

Draft land use guidelines were issued for several OMNR districts in 1982. This was followed by extensive public meetings involving some 10,000 people in 184 open houses in 1982. Plans were finalized in 1983 with the publication of the *Backgrounder. Land Use Guidelines* (Ontario Ministry of Natural Resources, 1983), to be followed eventually by detailed district (or local) guidelines. Fish resources have been dealt with in the district plans. Strategic Fisheries Plans for the years 1985 to 2000 will be produced for each of the Great Lakes.

Royal Commission on the Northern Environment (RCNE) (ea, ra, ccr)

Geographical location:	Province of Ontario, North of 50th parallel
Undertaken by:	Government of Ontario

Years: 1977-1985

Contact: (Office disbanded after final report was issued)

Description:

The Ontario Royal Commission on the Northern Environment (RCNE) was established by an Order-in-Council of the Ontario Cabinet. The Commission's work had its origins in the "Reed Controversy," the proposed granting of a large new timber right in a boreal forest area to a pulp and paper company previously involved in a large-scale mercury pollution case in northwestern Ontario. (Blythe, 1983)

The Commission "was asked to assess the environmental effects of major enterprises in the North, to recommend methods for their assessment, and to examine alternative uses for northern resources." (Hartt, 1978, p. 2) "Environment" was defined to include not only the natural environment but also the social, economic and cultural conditions influencing the lives of people and their communities. "Major enterprises" were defined to include organizations involved with forest resources, mining, smelting, oil and gas extraction, pipelines, hydro-electric development, water use, tourism, transportation and communication.

Preliminary hearings took place in 14 northern communities and Toronto in 1977 and 1978 to focus the area of interest of the Commission. Over 400 submissions were presented by individuals, organizations and government departments. The results of these hearings were summarized in the Interim Report of the RCNE (Hartt, 1978), after which the original commissioner resigned from his task.

In 1979, the new commissioner affirmed that he would listen to northerners and make recommendations that would give the people of northern Ontario a stronger voice in deciding their own futures. Special attention would be given to the concept of "controlled development" which had been a major theme in the preliminary hearings. In July 1982, the commissioner announced that the main areas of concern had been narrowed down to "those aspects of development involving the allocation, use, and management of natural resources." The main hearings were carried out in late 1982 and early 1983. The final report, a monumental document with its appendices, was released in 1985. (Fahlgren, 1985)

Technology Assessment in Subarctic Ontario (TASO)* (ea, aa)

Geographical location: Northern Ontario

Undertaken by: McMaster University

Years: 1982 - ongoing

Contact: R.J. Preston
McMaster University

Description:

"The Program for Technology Assessment in Subarctic Ontario (TASO) is an interdisciplinary research program established at McMaster University to undertake long-term research in

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* See also descriptive inventory of the James Bay Region.

anticipation of resource development in northern Ontario over the next ten to twenty years. The project is initally focussed on the economic, social and environmental impacts of potential hydro-electric energy projects for the major river systems draining into James Bay and Hudson Bay. The TASO research report series provides a vehicle for distributing the results of studies undertaken by TASO associates, and includes papers of a technical nature, as well as papers prepared for presentation to non-specialist groups." (From the preface of the TASO report series)

Of the 21 TASO reports issued between 1982 and 1985, none is specifically concerned with local-level resource management. However, several are concerned with social impact assessment, and one provides a start to "establish an historical understanding of the social processes that existed before major projects took place," and to "encourage earlier consultation and the more effective exchange of information" between developers and the local people. (Preston, 1983)

Resource/Environmental Enhancement and Conservation

Great Lakes Ecosystem Rehabilitation (GLER) (ra)

Geographical location:	Great Lakes
Undertaken by:	H. Regier and G. Francis
Years:	1977 - ongoing
Contacts:	H.A. Regier, University of Toronto G.R. Francis, University of Waterloo

Description:

A joint seminar held in 1976-1977, involving Canadian and U.S. scholars, proposed studies on the rehabilitation of Great Lakes ecosystems. In June 1977, the Great Lakes Fishery Commission (GLFC) funded a feasibility study to review the "state of the art" for ecological rehabilitation of aquatic ecosystems, and an assessment of the feasibility of Great Lakes ecosystem rehabilitation. The following is excerpted from the Executive Summary of the report of the initial project. (Francis, et al., 1979)

"The main conclusion is that comprehensive ecosystem rehabilitation strategies for the Great Lakes are in general feasible to develop. They should be initiated first for smaller ecosystems such as bays and harbours, and tailored to the particular conditions and stresses impacting on particular areas. Once this is done, we can assess whether to adopt additional basin-wide rehabilitative measures to include those being carried out for fisheries by the GLFC and for water quality improvements by the International Joint Commission (IJC)."

"Rehabilitation prospects are addressed at three ecosystemic levels: the whole Great Lakes basin; individual lakes; and major critical ecosystems within the lakes. Operationally, the primary attention of managers will likely focus on the third level since each ecosystem at that level is subject to a different mix of stresses. Some sixteen kinds of man-induced stresses were identified and examined at the generic level. Each was reviewed to point out some major ecological manifestations, some useful rehabilitative techniques, and a measure of current feasibility from technical, economic and institutional viewpoints."

A series of more specialized studies has also been undertaken on "critical ecosystems within lakes." One major report of this exercise is on the Long Point area, northeastern Lake Erie. (Francis, et al., 1985) This report includes material on local-level processes related to resource

users and to management policies. In particular, it advocates the development of informal, problem-oriented, user-group associations. (Francis, 1985) More recent work has focussed on rehabilitating selected problem areas as identified by the International Joint Commission, with special attention to actor systems and local-level organizations.

Coastal Management and Rehabilitation Studies (ra)

Geographical location: Great Lakes, coastal zone

Undertaken by: Various universities and non-governmental organizations

Years: 1970s - ongoing

Description:

Partly as a continuation of the Great Lakes Ecosystem Rehabilitation (GLER) initiative, a number of studies have been undertaken by H.A. Regier, G.R. Francis, A.P. Grima and T.H. Whillans and their students and associates on coastal management and rehabilitation in various parts of the Great Lakes. While local-level management is not a major theme in these studies, several publications resulting from them deal with aspects of local-level issues and processes: public participation under the International Joint Commission (Grima and Wilson-Hodges, 1977; Grima and Mason, 1983); fish community transformations through history in selected sub-systems (Regier and Hartman, 1973; Whillans, 1979a); stress response in fish communities (Whillans, 1979b); stress response in coastal wetlands (Whillans, 1982; Patterson and Whillans, 1985); flood and erosion control policies (Kreutzwiser, 1979); water quality management policies (Grima and Griffith, 1983); and case histories of urban aquatic ecosystems, such as Hamilton harbour and Toronto harbour. Some of the case studies on ecosystem management and rehabilitation have been synthesized to provide general perspectives on the use of the ecosystem approach. (Lee, et al., 1982)

A number of non-governmental organizations have also carried out projects for the conservation of natural areas, some of them in coastal regions. These include projects undertaken by the Federation of Ontario Naturalists and the Ontario Heritage Foundation. (Hilts, et al., 1986) While not directly concerned with local-level management, these projects do rely on volunteers, local groups, and the cooperation of local users and landowners.

Synthesis of Canadian Great Lakes Ecosystem Studies (ra, ccr, ll)

Geographical location: Great Lakes

Undertaken by: Universities of Toronto, Waterloo, Brock and Trent

Years: 1982-1986

Contact: H.A. Regier
University of Toronto

Description:

Related to the Great Lakes Ecosystem Rehabilitation (GLER) project and coastal management and rehabilitation studies, and involving much the same team of scholars, this project (1982-1986) aims "... to bring together and interpret reliable and relevant ecological and socio-economic information concerning Canada's highly valued and ecologically sensitive freshwater resources, especially in the Great Lakes Basin. The information will consist both of

qualitative characteristics and quantitative measurements; it is now widely scattered. Its importance to policy options and agency mandates will be clarified with respect to Great Lakes ecosystems and especially to Canada's concerns and binational negotiations." (From the Executive Summary, H.A. Regier with G.R. Francis, A.P. Grima, F. Berkes, Proposal to the Max Bell Foundation, "Definitive Synthesis of Canadian Ecosystemic Information on Freshwater Resources Relevant to Binational Negotiations Especially Concerning the Great Lakes," March 1982)

The scope of the material to be synthesized is broad. A number of areas of focus have been identified, as summarized below. One of these areas (item 6) is directly relevant to local-level resource management.

1. Ecosystem science and management (Regier and Grima, 1984; Rapport, et al., 1985); in particular, the application of the idea of sustainable development ("redevelopment" in the case of degraded ecosystems) to Great Lakes and other resources (Regier and Baskerville, 1986);

2. Contaminants and the review of the U.S.-Canada Water Quality Agreement (National Research Council and the Royal Society of Canada, 1985);

3. Protection of the Great Lakes natural heritage;

4. Economic valuation of resources;

5. Macro-institutional structures (Francis, 1986); and

6. Micro-institutional mechanisms, user groups, allocation (Regier and Grima, 1985; Berkes, 1984, 1985a; Berkes and Pocock, 1983; Whillans and Berkes, 1986; Lerner, 1986).

Aboriginal Land and Resource Agreements

The Ontario Native Fishing Agreement (rdp, ra, ccr, ll)

Geographical location: Province of Ontario

Undertaken by: Provincial and federal governments, Ontario Indian groups

Years: 1976-1982; 1986 - ongoing

Contact: A.J. Stewart, Ontario Ministry of Natural Resources

Description:

Almost all of Ontario is covered by treaties signed in the 1800s and the early 1900s. There is not much work in the area of land and resource claims, and no new land claims agreements are expected (except perhaps for the Temagami Band which has a land claim case still in court). There is a Native Fishing Agreement, still in progress, to specify and consolidate native fishing rights in Ontario, and to involve local groups more fully in local-level resource management. Issues, controversies and progress are summarized in Berkes and Pocock (1983). After a deadlock that lasted through 1985, government and native representatives started discussions again in 1986. (Driben, 1987)

Resource Allocation

Strategic Planning for Ontario Fisheries (SPOF) (rec, ccr)

Geographical location:	Province of Ontario
Undertaken by:	Ontario Ministry of Natural Resources
Years:	1974-1980s (superseded by other programs)
Contact:	Fisheries Branch, Ontario Ministry of Natural Resources

Description:

"A new management strategy for Ontario fisheries was addressed by a federal-provincial task force in 1974-76. It was initiated in an atmosphere of concern over the deteriorating status of fish stocks in Ontario, and indeed elsewhere in Canada. The task force published interim documents on 'Goals and Issues,' 'Mandates' and 'Objectives.' These received limited distribution for criticism. This report summarizes the proposed 'Strategy.' Speaking generally, it has become abundantly clear that our traditional approach to fisheries management - development-oriented, exploitive, open access - is no longer appropriate in the 1970s and 1980s. That approach, together with the accelerating impacts of land and water uses that conflict with fisheries, has resulted in serious losses in our resource base, particularly during the past two or three decades.... The new initiative will require ... the evolution of different value systems, and of new and/or more explicit policies regarding

- a new level of public participation;
- a 'user pays' policy in place of the free access philosophy of the past - to meet some of the increased cost of managing the resource;
- more limited access and increased emphasis on protection in place of the open access, common property approach of the past;
- explicit recognition that 'experimental management' is needed to gain the new knowledge necessary to manage;
- recognition that management of fisheries requires greater attention to environmental quality matters;
- explicit allocation of those parts of the resource base available for commercial and recreational uses;
- new working arrangements between fisheries agencies and other institutions." (Loftus, et al., 1978)

Changes in the fishery management goals and approaches, as set out in the SPOF program, were further elaborated in subsequent writings. (Regier, 1981; Loftus, et al., 1982) See also the entry on "Community Fisheries Involvement Program."

Fishery Resource Allocation Studies (rec, ccr)

Geographical location: Mainly Great Lakes, with applications elsewhere

Undertaken by: A.P. Grima and H.A. Regier

Years: 1983 - ongoing

Contacts: A.P. Grima and H.A. Regier, University of Toronto

Description:

Partly related to the SPOF initiative, and further developed under the "Synthesis of Canadian Great Lakes Ecosystem Studies" project, the paper by Regier and Grima (1985) is a major recent output. Resources may be managed in terms of exclusive or nonexclusive rights to the use of resources, and in terms of transferable or nontransferable rights (Table 2). Expanding on a schema by the economist Dales (1975) who is a proponent of a free market approach to environmental management, Regier and Grima's (1985) approach is valuable in showing that there are at least three alternatives to free-access, exploitive use ("the tragedy of the commons"): resource management by administrative controls (the current paradigm), by market mechanisms (as advocated by some economists), and by community-level (or local-level) mechanisms.

Social Assessment of Fisheries Resources (SAFR) (rec, ccr)

Geographical location: Great Lakes focus with universal application

Undertaken by: Great Lakes Fishery Commission

Years: 1985-1986

Contact: D.R. Talhelm
Social Assessment of Fisheries Resources
c/o Great Lakes Fishery Commission
1451 Green Road
Ann Arbor, Michigan
USA 48105

Description:

"SAFR is a symposium-type of exercise for the social science community, intended to improve the practical usefulness of social sciences in Great Lakes fisheries management in this environment in which managers find themselves. The first SAFR workshop will concentrate on providing a scientific rationale for understanding human values, valuation and decision processes as related to Great Lakes management.... A follow-up activity after SAFR will attempt to transfer these tools to the management community. We hope to be able to show the management community:

1. how to conveniently use economic and other social value analyses in management;
2. how to keep improper values or procedures from distorting public decisions; and
3. how to better manage public issues and public decision-making processes."

Table 2. A perspective, expanded from a schema by Dales (1975), on the variety of ways in which rights to use of fish and similar resources are managed in our society. In the four inside characterizations the exclusivity and transferability of user rights are satisfied in a partial manner. User rights in these four inside types are less sharply defined than those in the four corners. The schema may be viewed to have a soft core with a more sharply defined hard shell or edge.

	Exclusive right	Nonexclusive right
Nontransferable	Rights to use administered by government with a centralized bureaucracy, regulatory boards, courts Rights to use privatized in part and administered by a community of users	Rights to free access to common property, in a tradition of untrammelled exploitive use Rights to free access to community resources in tradition of individual stewardship
Transferable	Rights to legitimate use exchanged by informal bartering openly in public Rights to legitimate use exchanged for money in a free market institution	Rights to use conferred through a patronage establishment, publicly condoned Rights to use purportedly exchanged, but fraudulently, by criminal swindlers

"This should help managers in (1) obtaining the funding necessary to protect and enhance fisheries resources, (2) serving diverse public interests in a cost-effective manner, and (3) improving and maintaining public understanding, public support and public demands for top-quality resource management." (From the Synopsis, D.R. Talhelm, et al., "Social Assessment of Fisheries Resources (SAFR): A Great Lakes Fishery Commission Consultation on the Application of Social Sciences in the Great Lakes Fishery Resource Management," January 1985)

The proceedings of the SAFR workshop have appeared as a special issue of the Transactions of the American Fisheries Society, volume 116, number 3, May 1987.

Local-level Resource Use and Management

Small-scale Fisheries and Common Property Resources (ra, ccr)

Geographical location:	Various case studies, including those from the Great Lakes area
Undertaken by:	F. Berkes
Years:	1980 - ongoing
Contact:	F. Berkes, Brock University

Description:

A continuation of studies begun in the eastern James Bay area (see Descriptive Inventory of the James Bay Region), this study investigates local-level management that makes small-scale fisheries work (or not work). The theoretical framework is the Common Property Resource Theory, and the focus is on self-regulation of communities of fishermen.

The initial studies of self-regulation (Berkes and Pocock, 1981) were elaborated through the investigation of the role of processors as a "governor" of fishing pressure. It was found that not only were too many fishermen competing over the available fish, but too many processors were competing over the available fishermen. In the case of one high-priced species (yellow perch), landings per unit of investment were declining through the 1970s (implying overfishing) but the economic returns on investment were increasing, due to a rapid increase in price. Managers have traditionally managed fish stocks, and more recently, the fishing effort. But the results indicate that the processors have to be managed as well, to match the processing capacity to the ability of the resource to sustain the fishery. (Berkes, et al., 1983)

More recent work includes an evaluation of the various mechanisms to solve the open-access problem (Berkes, 1985a), an evaluation of the system of allocated individual quotas in Lake Erie (Berkes and Pocock, 1987), and an attempt to evaluate community-level processes in the context of managing common property resources in general (Berkes, 1985b). One of the papers (Berkes, 1985a) offers a "life cycle" model of living resource use, borrowing from the "fishing-up sequence" idea of Regier and Loftus (1972), and the Staple Theory of Economic Growth of H.A. Innis.

Community Fisheries Involvement Program (CFIP) (rdp, rec)

Geographical location:	Province of Ontario
Undertaken by:	Ontario Ministry of Natural Resources
Years:	1982 - ongoing
Contact:	J. Smitka Ontario Ministry of Natural Resources

Description:

The Community Fisheries Involvement Program (CFIP) of the Ontario Ministry of Natural Resources (OMNR) is described by Smitka (1984) and Mutton (1986):

"The idea of a public involvement fisheries program comes from British Columbia, which established the Salmonid Enhancement Program, or SEP, in 1978 ... In 1982, Ontario angling clubs curious about the B.C. program asked the Minister of Natural Resources to investigate. OMNR's top fisheries management experts flew to B.C., looked around and returned with an enthusiastic report. 'Do it - now' was the decision, and several weeks later CFIP was born.

"Like the B.C. program, CFIP immediately tapped a tremendous energy source: ordinary anglers who had been grinding their teeth in frustration watching the streams and fishing holes of their youth decline. CFIP provided these people with ammunition to fight back - funds for materials and technical advice to help them tackle everything from replacing pan fish with more popular species in lakes and rivers to stabilizing stream banks.

"In 1982, the province funded a total of 24 projects involving six sport fish species. Nine projects involved rehabilitating waterways and 10 provided funding to hatch, raise and release more than 127,000 fish. In 1985, OMNR approved more than 110 projects involving 10 sport fish species, thereby releasing funding for 43 rehabilitation projects and 51 fish culture programs across Ontario." (Mutton, 1986)

In the summer of 1985, OMNR created a parallel program for wildlife (called CWIP), inspired in part by the success of the CFIP.

Volunteer Environmental Stewardship (rec)

Geographical location:	Great Lakes, with emphasis on the Long Point area, Lake Erie
Undertaken by:	S.C. Lerner
Years:	1983 - ongoing
Contact:	S.C. Lerner, University of Waterloo

Description:

"The environmental groups of most interest to us here are what can be called stewardship groups. While their names differ (Friends of the Spit, Friends of Wye Marsh, Alliance for the Lady Evelyn Wilderness, Chippewa Watershed Association, Coalition on the Niagara Escarpment, Save Our Streams), the stewardship group typically sees itself as having a special interest in preserving, protecting and working for the betterment of a specific geographic area,

natural feature, resource or amenity. Such groups pursue their objective through a wide variety of activities including education (self and public), research, fund-raising, inventories, clean-up initiatives, monitoring and surveillance, and general caretaking. They generally see themselves as continuing and their goals are long-term....

"The successful design, implementation and long-term maintenance of an ecosystem management approach to the Great Lakes requires the creation of a broadly-based constituency for the Lakes from the diversity of local groups that depend on the Lakes for a variety of resources and pleasures. By constituency is meant a base of political support for sustainable, ecosystem-sensitive development, arising out of a network of volunteer groups engaged in a variety of stewardship activities at local and regional levels in the Great Lakes Basin. In short, people concerned about the future of the Lakes and about environmental quality in their own communities cannot wait for or depend on governments or the private sector to take action. The current watchword is 'Do It Yourself'." (Lerner, 1986)

In line with the basic idea of volunteer stewardship groups, a local biosphere reserve committee is being organized, with the Long Point Foundation for Conservation as the lead group. (G.R. Francis, pers. comm.) The kinds of local arrangements being attempted in the Long Point area are consistent with the focus in the present compendium on local self-governing arrangements. For more details, see Francis (1985). A workshop on volunteer environmental stewardship was held at the University of Waterloo in July 1988.

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SECTION V

LOCAL-LEVEL MANAGEMENT IN THE BRITISH COLUMBIA COASTAL AREA

by

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1. DESCRIPTIVE OVERVIEW OF KEY RESOURCE ISSUES RELATED TO LOCAL-LEVEL MANAGEMENT

In general, management decisions affecting British Columbia's coastal resources are made by senior levels of government, with little local involvement. There are five fundamental issues which affect both the quality of this management and the ability of local bodies to participate in it. They are summarized below.

Reduction in Local and Regional Planning Capability

Since 1968, when regional districts were formed, and especially since 1978, when they were given greater opportunities to do detailed planning, regional districts have played a key planning role. However, in 1983, the Municipal Act was altered (Bill 9) to eliminate official regional planning at the regional district level, and to cancel regional plans already in effect. Technical Planning committees which had brought representatives of senior government agencies together to work with regional planners were also eliminated in 1983. Since then, local plans, projects and by-laws have usually gone through the referral process whereby government agencies receive plans and reply in writing, with much less opportunity to understand and discuss the issues. Regional Resource Management committees composed of senior regional managers from provincial resource agencies have also ceased to exist, with the same effects. In addition, municipalities are now allowed to opt out of participation in "settlement plans" outside their boundaries, thus weakening the funding and consequent planning which occurs on the local electoral area level. This contributes to the problem of lack of coordination of economic development at the regional and provincial levels. Projects such as the Musgamagw Demonstration Project and the Cowichan Community Development Project represent key attempts to overcome the problem and to support local initiatives and long-range planning for resource management on the local level. The recent burgeoning of aquaculture leases has also spurred attempts by some local groups to become involved in zoning of acceptable and unacceptable aquaculture sites, although these groups are presently working without a legal mandate. There is much need for more research on the potential impact of aquaculture on fish markets, now supplied by wild fisheries, and on the feasibility of aquaculture projects which would not conflict with established markets. Environmental limits to aquacultural developments, and the impact of aquaculture on coastal communities also need study.

Inadequate Mechanisms to Resolve Conflicts between Exploitation and Management of Different Resources

Examples of this issue include conflicts between fish habitat protection and clear-cut steep slope logging and log boom storage, between fish habitat protection and industrial protection effluent disposal, between agriculture and/or fish habitat protection and hydro-electric development, and between habitat protection of many marine resources and offshore oil exploration and development. Conflicts tend to be resolved in favour of the industry which generates the greatest short-term profit, whether or not that particular resource is renewable and/or can sustain a long-term profit higher than other renewable resources being damaged in the process. The development process is then plagued by intensive and long-term political lobbying from the local groups who were not consulted in planning, and/or who are dependent on the resource which is being treated as less important. There is a need to study the long-term economic and social importance of different resources in conflict so that a rational overall development and management strategy can be worked out. Since local populations dependent on natural resources have been highly vocal in bringing the conflicts to public attention, there is a demonstrated need to study how local management concerns could be incorporated into development at an earlier stage.

Political Constraints on the Planning of Single Resource Development for Long-term Sustained Yield and Community Stability

Senior levels of government tend to operate with the goal of creating the maximum short-term employment and production which can be absorbed by markets at a particular time, rather than adopting management practices maximizing long-range sustained yield or optimizing long-term social goals. In other words, without rational governmental constraints, industries tend to operate at Maximum Yield rather than Maximum Sustained Yield.

An important issue in fisheries management has been the attempt to operationalize Optimum Sustained Yield: a level of harvest which serves social objectives (such as long-term local employment at a certain level) as well as the economic and biological objectives of Maximum Sustained Yield. More research is needed to develop models for Optimum Sustained Yield and to suggest concrete methods of obtaining it. Present efforts to develop fisheries co-management agreements could be seen as a potential route to achieve this objective, since co-management creates the opportunity for communities and local groups to work out their own objectives and integrate them within their management plans. Examples of successful co-management are rare, and it is important for studies to identify the necessary ingredients for achieving it, and to investigate how Optimum Sustained Yield can best be attempted.

The task of identifying Optimum Sustained Yield in the forest industry is simple in theory, but more difficult to achieve politically. The policy direction of giving increasingly greater management responsibility to the multinational companies which have the greatest tenure has severely constrained local involvement in management. Community-based forestry is more likely to have a role in the future when the first growth forest is completely cut and more labour-intensive work will be needed to restore forests to productivity and to manufacture different wood products. Community forestry is in its infancy in British Columbia and research is needed to assist in this transition. The need to make the transition is especially urgent because of increased unemployment in the forest industry as the large companies adopt more capital-intensive harvesting and processing techniques. Unemployment has been steadily worsening in British Columbia since 1981, and is much higher outside Greater Vancouver than the provincial average of 15%.

Lack of Basic Information about Marine Resources and Their Capacity to Sustain Harvests

New species being brought under commercial exploitation are often over-harvested because of overly optimistic predictions (e.g., sea urchin, shrimp, abalone, geoducs, roe herring). Better understood species such as salmon are enhanced where there are major runs, but little is understood about the timing and patterns of migrations of these specific stocks when they intermingle with other enhanced stocks from smaller streams. Thus the harvesting of enhanced stocks without concern for weaker wild stocks may result in the depletion or even the elimination of the weaker wild stocks taken with them in disproportionate numbers. For local management to occur, much more research must be done on the movements of local fish stocks, as well as on those which temporarily inhabit or pass through local waters. The Gitskan-wet'suwet'en work on the stocks in their area is exemplary, but can have minimal effect if most stocks are intercepted without attention to problems of mixed stock harvest. The training of local people in habitat improvement, stock rehabilitation or enhancement, and in data collection and analysis is an extremely important step toward local-level management. The decision to give high priority to such research and the acquisition of funding for start-up costs and training are crucial components in the achievement of local-level marine resource management.

The Resolution of Native Land and Sea Claims

There is an ongoing debate on how native land and sea claims can be resolved in ways which do not rupture the socio-economic fabric of the isolated communities where natives and non-natives live side by side and are equally dependent on local natural resources. One example of cooperation in development is cited under the "Public Involvement Projects" of the Salmonid Enhancement Program of the Department of Fisheries and Oceans. Research is needed on how to foster cooperation and avoid the sort of disruptive battle which followed the U.S. versus Washington case (the Boldt Decision) which affirmed Indian treaty rights and tribal management authority in western Washington (U.S.A.).

It is also important that funding and training mechanisms, and the settlement of claims avoid increasing stratification and conflict within Indian communities. Native tribal groups in the coastal area had aboriginal mechanisms for distributing surplus resources and for allowing the wealthier and higher status members of the community to take responsibility for the welfare of other tribal members. Although the aboriginal economic system has been profoundly altered by the control which Europeans have taken over resources, certain key elements of chiefly authority, tribal solidarity, and social systems remain in many areas. Local economies and socio-cultural systems can be strengthened, rather than undermined, if local social structures are understood and incorporated into development strategy. The Gitskan-wet'suwet'en development proposal is a good example of planning with this awareness. If Indian communities are assumed to be composed of economically "rational" individuals who operate only to maximize individual gain, funding mechanisms are likely to benefit only a few at the expense of many (as has happened with some programs). An awareness of the great diversity of aboriginal and contemporary socio-political systems is also crucial. Research is needed on ways of designing development strategies which are appropriate in terms of this general issue and in terms of the situations of particular groups.

In the descriptive inventory of studies and projects which follows, many may be classified as belonging to several subject categories. A coding system indicates areas of overlap.

Headings	Codes
regional development planning	rdp
resource/environmental enhancement and conservation	rec
environmental assessment	ea
aboriginal land and resource agreements	aa
resource allocation	ra
conflict and conflict resolution	ccr
local-level resource use and management	ll
external factors influencing local-level management	ef

2. DESCRIPTIVE INVENTORY OF STUDIES AND PROJECTS

Regional Development Planning

The Barkeley Sound Plan

Geographical location: Western Coast of Vancouver Island

Undertaken by: Alberni-Clayoquot Regional District

Year: 1983

Contact: Jim McManus
Department of Planning
Alberni-Clayoquot Regional District
Port Alberni, B.C. V9Y 6G3

Description:

This model is one of the few locally initiated coastal zoning plans in Canada involving land and water use. The plan, which includes maps outlining the uses which are and are not permitted, was brought to the attention of senior levels of government in the expectation that they would respect it. (While there is no commitment by senior levels of government to abide by it, the plan will presumably have some influence over whether or not they do.) The plan was intended more as an instrument of aquacultural development than of regulation; the city of Port Alberni was shaken by massive layoffs in the forest industry during 1981-1982: most of the four pulp, plywood, and sawmills in the town were closed or operated with severely reduced manpower; employment in logging was also reduced. In putting the plan into effect, the town and the Regional District began to reorient themselves toward other smaller resources, especially marine. For example, the town subsidized the Robertson Creek salmon hatchery.

Community Profile and Economic Strategy for the Cowichan Valley (ll, ef)

Geographical location: Southeastern Vancouver Island

Undertaken by: Cowichan Community Development Advisory Society
(formerly the Arbutus Project)
LEAD (Local Employment Assistance and Development) funding

Year: 1985

Contact: Ron Smith, Research Coordinator
124 Canada Avenue
Duncan, B.C. V9L 1T5

Description:

This plan was designed to stimulate employment in line with the social objectives of the community, primarily in vineyards, silviculture and aquaculture; it involves coordinated land-use decisions for the highest benefit of overall community employment and development of natural resources. The plan also includes seminars to assist the launching of small businesses and the raising of venture capital. The project, undertaken by unemployed people, obtained federal/provincial funding through a LEAD grant. It is in the same category as *Strategy for Survival* (1986), a project undertaken by Mayor Graham Bruce and available at Box 278, Duncan, B.C. V9L 3X4. Bruce's other project relates to the nearby District of North Cowichan Community Forest. This community-managed forest consists of cut-over lands which reverted to the Crown, and could serve as a useful demonstration of what British Columbia forests will look like after the first growth is harvested. It is expected that different forest management strategies will be required to generate a profit under different conditions. This Municipal District also has a "Cowichan Bay Settlement Plan" which includes community management of parks and tourism.

Cowichan Estuary Environmental Management Plan

Geographical location: Cowichan Estuary

Undertaken by: Ministry of Environment and Parks, B.C., in consultation with the Cowichan Valley Regional District and the Municipality of North Cowichan

Year: Statutory plan adopted by order-in-council Sept. 1986, after a 12-year process

Contact: Tom Oxland
Ministry of Environment and Parks
2569 Kenworth Road
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Description:

This plan limits the scope of industrial development (especially log storage) in the Cowichan estuary, where an important fish habitat area would be damaged. The plan, developed by the provincial government in consultation with local governments and the federal Department of Fisheries and Oceans, involved negotiations with major industrial interests resulting in legal agreements on their part to comply with the plan guidelines. The plan also provides a framework for locally initiated planning which cuts across jurisdictional concerns normally beyond the ability of local authorities to regulate. This was the first time Section 4 of the Environmental Management Act had been used to develop an environmental management plan. Publications documenting the lengthy process of developing the plan include: 1980, *The Cowichan Estuary Task Force Report*; 1984, *Report on the Cowichan Estuary Plan Implementation Programme*; and 1986, *The Cowichan Estuary Environmental Management Plan*, which includes copies of the agreements.

Worker Participation in the Reforestation Labour Force: Exploring New Concepts in Work Structure (ll, ra)

Geographical location: Coastal British Columbia (unspecified)

Undertaken by: D'Arcy Davis-Case (M.S. thesis, Faculty of Forestry, University of British Columbia)

Year: 1985

Description:

The study compares the social organization of independent tree-planting work crews or worker-owned co-ops with that traditional work organization, and includes an analysis of the efficacy of worker participation in decision-making. The study has implications for the participation of local labour in the development and execution of local projects. Davis-Case will spend 1986 and 1987 working for the Forestry Department of the Food and Agriculture Organization in Rome, on the development of participatory self-evaluation processes for community forestry programs in Africa, India, and the Orient, before returning to explore the potential usefulness of the participatory self-evaluation concept to community-based job creation projects in Canada.

Resource/Environmental Enhancement and Conservation

The Agricultural Land Reserve (rdp)

Geographical location: British Columbia, especially lower Fraser River and Delta area

Undertaken by: B.C. government

Years: 1972 - ongoing

Contact: Robert Murdock
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Agricultural Land Commission
4940 Canada Way
Burnaby, B.C. V5G 4K6

Description:

Under the Environment and Land Use Act of December 1972, and later under the B.C. Land Commission Act, good agricultural land (constituting 4% of the total land area of B.C.) was put under reserve status and prohibited from being subdivided or developed for other uses without permission from the Agricultural Land Commission. The Commission is composed of a chairman and four farmers appointed by the Lieutenant Governor-in-Council, representing different commodities and geographic areas. The intent of this pioneering legislation (since initiated in Quebec, Newfoundland, New Zealand, Norway, and the U.S.) was to prevent British Columbia's scarce prime agricultural land from gravitating to real estate. Following the "freeze" phase, a review process allowed joint planning by the provincial government and regional districts regarding the status of these and other lands. By orders-in-council issued between 1973 and 1975, inappropriate lands were added. Since then, any appeal to remove land from the Agriculture Land Reserve must first be approved by the local authority (municipality or regional district) and, if approved, passed on to the Commission for final judgement. In general, the Commission accepts the recommendation of the local body as long as it is consistent with the local land use plan originally established before 1975. Annual reports and the *Ten-year Review Report* published in 1983 can be obtained in libraries or from the Commission.

The Importance of Healthy Fish Habitats to British Columbia Fisheries (ccr, ea)

Geographical location: British Columbia

Undertaken by: British Columbia Watershed Protection Alliance, Presentation to the House of Commons Standing Committee on Fisheries and Forestry, Kamloops, B.C. VOG 2JO

Year: 1985

Contact: Herb Hammond and Susan Hammond
British Columbia Watershed Protection Alliance
Box 9
Slocan Park, B.C. V0G 2E0

Description:

The discussion of the effect of present watershed management on fisheries is one of the products of the British Columbia Watershed Protection Alliance, made up of citizens' organizations, municipalities, improvement districts, and native Indian groups. The Alliance provides research and education services on effective watershed management to stress the importance of truly integrated watershed management to governments and industry. It has published a handbook described as a comprehensive guide for citizens' groups concerned about the protection of the quality of their water.

Islands Trust

Geographical location:	Gulf Islands between lower Vancouver Island and British Columbia mainland and lower Howe Sound Islands
Undertaken by:	B.C. government and local groups
Years:	Early 1970s - ongoing
Contacts:	Cynthia Hawksworth Ministry of Municipal Affairs 747 Fort Street Victoria, B.C. V8W 3E1 or Mike Humphries (oyster grower) former Chairman of Islands Trust

Description:

Islands Trust is a local land-use planning body for the Gulf Islands which developed plans designed to preserve the rural life-styles of the Gulf Islands and prevent rapid real estate development and the destruction of the small-scale existing resource base in agriculture and mariculture. The Trust Council is composed of elected representatives from 13 major islands in the Trust area.

Salmonid Enhancement Program (rdp, ll)

Geographical location:	Several coastal British Columbia communities
Undertaken by:	Department of Fisheries and Oceans, Vancouver, in conjunction with local groups
Years:	1977 - ongoing
Contacts:	James Bolen or Colin Masson Department of Fisheries and Oceans Salmonid Enhancement Program 555 West Hastings St., Suite 400 Vancouver, B.C. V6B 5G3

Description:

The Salmonid Enhancement Program (Special Projects) is concerned mainly with the building and operation of salmon hatcheries or smaller-scale habitat enhancement projects carried out under two types of community auspices.

Public Involvement Projects are undertaken by non-Indian community groups with the assistance of Department of Fisheries and Oceans (DFO) seed grants and volunteer labour. In the last three years, at least twenty-four of these projects have begun to take over major management responsibility: policing, data-gathering, planning and administrative operations. Recently, the projects have been making use of Canada Employment and provincial program funding to create new jobs and more wealth through the increased production of fish. The program also receives donations from the community and cut rates on equipment purchases. DFO is now investigating the possibility of allowing such community-managed projects to directly sell surplus fish returns to meet hatchery needs, to reduce hatchery expenditures and/or to assist local community economic development projects. For an overview, see DPA Consulting and Dennis Rank (1983).

The Community Economic Development program involves Indian and non-Indian communities in fish production. Some projects have enjoyed great success and are on the verge of becoming self-managing. See Rank (1982).

Environmental Assessment

Setting Ecological Research Priorities for Management: The Art of the Impossible in the Fraser Estuary

Geographical location:	Fraser River estuary, southwestern British Columbia
Undertaken by:	A.H.J. Dorcey and Kenneth J. Hall
Year:	1981
Contact:	Westwater Research Centre University of British Columbia Vancouver, B.C. V6T 1W5

Description:

The authors conclude that an unusually high degree of technical knowledge and value judgement is required to make water quality and habitat management decisions in the Fraser estuary. They review a variety of investigations which could aid management decisions (inventory, monitoring, desk analyses, experimental management, experimental research) and suggest how these could be better linked to management on an ongoing basis. See also *Estuarine Habitat Management: A Prospectus for Tilbury Slough*, 1983, by Dorcey, Hall, Levy and Yesaki of the Westwater Research Centre.

West Coast Offshore Exploration Environmental Assessment Panel (rec, ccr)

Geographical location:	British Columbia coast
Undertaken by:	B.C. Ministry of Environment and Federal Environmental Assessment Review Office

Years: 1985-1986

Contact: Dave Marshall, Regional Director
Federal Environmental Assessment Review Office
700-789 West Pender St.
Vancouver, B.C. V6C 1H2

Description:

Submissions were made by the following groups representing local communities and interests: Nishga'a Tribal Council, Vancouver Natural History Society, Fisheries Council of British Columbia, Bella Bella Native Food Fishery, Department of Fisheries and Oceans, Ministry of Environment, Nuu-chah-nulth Tribal Council, Islands Protection Society, Kwakiutl District Council, Sierra Club of Western Canada, in addition to Bristol Foster and the Social Justice Commission of the Catholic Diocese of Victoria. Summaries of the contents of the briefs and copies of some of them are available.

Aboriginal Land and Resource Agreements

The Gitskan-wet'suwet'en Fishery in the Skeena River System (rdp, rec, ra, ll)

Geographical location: Northern British Columbia, upper Skeena River

Undertaken by: Mike Morrell
Gitskan-wet'suwet'en Tribal Council (GWTC)
supported by the Department of Indian and Northern Affairs and the Department of Fisheries and Oceans

Years: 1979-1985

Contact: Gitskan-wet'suwet'en Tribal Council
Box 229
Hazelton, B.C. V0J 1Y0

Description:

This inventory of fish catches and management strategy prepared by the Tribal Council documents current practices and future plans. The analysis includes a discussion of how aboriginal management and distribution systems will be adapted for local economic development, and the latest research and inventories.

House of Commons Standing Committee on Fisheries and Forestry (ll)

Geographical location: British Columbia coast

Undertaken by: Council of the Haida Nation
Gitskan-wet'suwet'en Tribal Council
Nishga Tribal Council
Nuu-chah-nulth Tribal Council

Year: 1985

Description:

Submissions from the above groups on the subject of aboriginal claims and local resource management plans include: Council of the Haida Nation, Prince Rupert, April 2, 1985 (discussion of their proposed fishery co-management agreement); Gitskan-wet'suwet'en Tribal Council; Nishga Tribal Council (May 30, 1985) on unacceptable logging practices in Tree Farm Licence 1 held by Westar; and Nuu-chah-nulth Tribal Council.

Land Use Development Study for the Kitsumkalum Band (ra)

Geographical location: Northwestern British Columbia

Undertaken by: Aspect Consultants, for the Kitsumkalum Band

Year: 1981

Contact: Clifford Bolton, Band Manager
Kitsumkalum Band Council
Terrace, B.C. V8G 4B5

Description:

Several members of the Kitsumkalum Band participated in this planning process, which led to two multi-million dollar retroactive settlements with CNR (Canadian National Railways) and subsequent economic development projects, including projects on salmonid enhancement, rock quarry employment, community improvement, and Band activity in environmental protection.

Musgamagw Integrated Forestry/Marine Resource Management and Development Demonstration Project (ll, ccr)

Geographical location: Northeastern coast, Vancouver Island

Undertaken by: Four Kwagul bands which form the Musgamagw Tribal Council: Kwawaaineuk, Kwicksutaineuk, Nimpkish, and Tsawataineuk, residing at Hopetown, Gilford Island, Alert Bay, and Kingcome Inlet. A fifth band at Turnour Island later joined the project. Supported by the Department of Indian and Northern Affairs, the Department of Fisheries and Oceans, the Department of Regional Economic Expansion, the B.C. Ministry of Environment, the B.C. Ministry of Forests, etc. (see below)

Years: 1985 - ongoing

Contacts: Bill Wasden, Project Coordinator, Alert Bay, B.C.
Doug Gordon, Committee Chairman
Indian and Northern Affairs Canada
Box 1000
800 Burrard St.
Vancouver, B.C. V6Z 2J3

Description:

The project, in operation since mid-1985, followed a series of single-industry demonstration projects (e.g., the Nuu-chah-nulth Forestry Project). It was decided that enough information had been obtained to launch an integrated project involving community management of forest and marine resources. The project is assisted by an Interdepartmental Resources Coordinating Committee comprised of federal representatives from Indian Affairs, Regional Industrial Expansion, Environment (Pacific Forest Research Centre), Canada Employment, Fisheries and Oceans, and the provincial ministries of Forests and Environment. One of its immediate tasks is to coordinate and rationalize funding for job training and project start-up costs, and to generate better data for the resolution of fishery/forestry conflicts. A 37-page description of the project is available from Doug Gordon.

Native Land Claims and Resource Development in British Columbia

Geographical location:	British Columbia
Undertaken by:	Nigel Banks, Frank Cassidy, Norman Dale, supported by the Institute for Research on Public Policy
Years:	1985-1986
Contact:	Norman Dale School of Community and Regional Planning University of British Columbia 6333 Memorial Rd. Vancouver, B.C. V6T 1W5

Description:

This study considers how land claims settlements would affect the availability and management of resources in the province; it investigates several options for claims settlements and various resource management and development alternatives based upon those options.

Native Self-reliance through Resource Development (ll, rdp)

Geographical location:	British Columbia and North America
Undertaken by:	William Sinclair, et al. Indian and Northern Affairs Canada Office of Native Claims 800 Burrard St. Vancouver, B.C. V6Z 2J3
Year:	1985, publication of proceedings of 1984 conference "Towards Native Self-reliance, Renewal, and Development"

Description:

Workshop topics included Community-based Planning and Economic Development, Business and Corporate Strategies, Fisheries and Aquatic Resources, Forest Resources, and Non-renewable Resources. The report describes a number of native community development projects in progress which involve locally based resource management.

Nimpkish Valley Resources Study (ll, rec, ccr)

Geographical location:	Northern Vancouver Island
Undertaken by:	Nimpkish Band Council supported by Indian and Northern Affairs Canada and the Assembly of First Nations
Years:	1980 - ongoing
Contacts:	Martin Weinstein R.R. 4, Site 480 Courtenay, B.C. V9N 1GO or Nimpkish Band Council Alert Bay, B.C.

Description:

The Nimpkish Valley Resources Study was initiated by the Nimpkish Band as an expression of its concerns about the state of fisheries and forest management in the valley. In addition, the Band saw the study as a vehicle to regain a voice in the management of its own traditional lands and resources, through the provision of a data base which would ultimately fit into a formal co-management structure between itself and the resource management agencies.

Just as the provincial and federal governments assumed sovereignty over the valley's lands, they also assumed management responsibility over its renewable resources, the salmon and the trees. Historically, Douglas fir was abundant in the valley's forests and the Nimpkish River was one of the most productive salmon streams in British Columbia. During the 1970s it became apparent that the renewable resources of the Nimpkish were not being effectively managed. At one point in the late 1970s, sockeye salmon escapement declined to less than 10,000 from levels in excess of 100,000. Similar declines were recorded during the same period for the other four Nimpkish salmon stocks, while controversies developed over forest management.

To date the results of the research have been used for the Band's internal planning and policy discussions; they have been discussed with other Indian organizations, and they have formed part of the presentation of the Band's position on resource management and planning to several planning groups, including the Commission on Pacific Fisheries Policy (1982) and the Regional District of Mount Waddington.

Nuu-chah-nulth Tribal Council Forestry Study and Pilot Project (rec, ll)

Geographical location:	Western coast of Vancouver Island
Undertaken by:	Nuu-chah-nulth Tribal Council (The West Coast Information and Research Co-operative [20-4965 Argyle Street, Port Alberni, B.C. V9Y 1V6] did the original study for the Nuu-chah-nulth Tribal Council.) Pilot project funded by Local Employment Assistance and Development (LEAD), New Employment and Expansion Development (NEED), and Canada Employment and Immigration Commission (CEIC)
Years:	Study: 1980; pilot project: ongoing

Contact: Nuu-chah-nulth Tribal Council
P.O. Box 1383
Port Alberni, B.C. V9Y 7M2

Description:

This report, prepared for the Nuu-chah-nulth Tribal Council, examines forestry needs on tribal lands and recommends hiring a forester and initiating training courses so that the bands may benefit from sound management of their forests. The study stimulated the first demonstration pilot project, the Nuu-chah-nulth Tribal Council Forestry Program, whose success has become a model for the later Stuart-Trembleur and Musgamagw projects. The Nuu-chah-nulth Tribal Council Forestry Program Report for the period 1980-1984, written by Nuu-chah-nulth forester John Masai (hired on the recommendation of the study), outlines the progress made under the program in inventorying reserve forest lands, implementing silviculture programs, training band members in forestry, especially intensive silviculture, helping launch businesses in contract harvesting and silviculture on non-reserve lands, developing a nursery, attempting to obtain longer-term tenure on Crown forest lands for Nuu-chah-nulth bands, and developing sawmilling facilities on reserves for reserve use.

Resource Allocation

Undercapitalization in a Local British Columbia Salmon Fleet: The Case for Area Management (ccr, ll)

Geographical location: Central British Columbia coast

Undertaken by: Evelyn Pinkerton (Paper presented at the International Congress of the Anthropological and Ethnological Sciences, Vancouver)

Year: 1983

Contact: School of Community and Regional Planning
University of British Columbia
6333 Memorial Rd.
Vancouver, B.C. V6T 1W5

Description:

This paper analyzes the patterns of very low investment in vessels and gear and local fishing in Bella Coola, an isolated area of the central British Columbia coast, and contrasts them with the rest of the British Columbia salmon fleet, leading to lower exploitation of local stocks. The implications of the findings for common property fisheries management theory, and the potential superiority of area fishing systems, are outlined in the paper.

Conflict and Conflict Resolution

An Assessment of Integrated Resource Planning as a Response to Preservation versus Development Conflicts in British Columbia (rdp)

Geographical location: Western coast of Vancouver Island and Kootenays

Undertaken by: Rick Searle (M.A. thesis, Geography, University of Victoria)

Year: 1986

Contacts: Rick Searle or Victor Woray
1598 Rockland Ave.
Victoria, B.C. V8S 1W5

Description:

The thesis explores the role of values in conflict resolution, identifying a fundamental difference in values among planning participants in two public planning processes: the Valhalla Land Use Conflict and the Meares Island Planning Team. The greatest disagreement arose in values associated with three areas: support for maximum economic growth, dominion over nature, and government intervention in and regulation of resource development. Contrary to the initial hypothesis, the thesis shows that the planning participants were generally sympathetic to environmental issues. See also the discussion of theory and methods used in the thesis (Searle and Dearden, 1986).

Currents of Change: Inquiry on Federal Water Policy (rec, ea)

Geographical location: Canada

Undertaken by: Peter Pearse, F. Bertrant and J.W. MacLaren, for Environment Canada

Year: 1985

Description:

Recommendation 10.1 of the final report on the Inquiry is that the federal government should adopt integrated watershed management as a principle of federal water policy, including all users in decision-making. Briefs from the Consumers Association of Canada, B.C. Branch, and the Nechako Neyenkut (November 21, 1984) presented to the Inquiry advocated that users pay for the cost of cleaning up the damage they caused to waterways and water quality.

Fish/Forestry Interaction Program: Summary - Part 1. Extent and Severity of Mass Wasting on the Queen Charlotte Islands and Impact on Fish Habitat and Forest Sites

Geographical location: Queen Charlotte Islands
Northwestern British Columbia

Undertaken by: Fisheries and Oceans Canada
B.C. Ministry of Forests
B.C. Ministry of Environment, Fisheries Branch

Years: 1981-1986

Contacts: Vince Poulin
2143 West 46th St.
Vancouver, B.C. V6M 2L2

or Land Management Report Series
Ministry of Forests, Parliament Buildings
1450 Government St.
Victoria, B.C. V6M 2L2

Description:

This study formed part of the settlement of a federal/provincial jurisdictional dispute over a hillside that deposited sediment and debris into an important salmon stream. The overall objectives of the study were to: 1) provide documentation on the extent and severity of mass wasting and assess the impact on fish habitat and forest sites; 2) investigate the feasibility of rehabilitating stream and forest sites damaged by landslides; 3) assess the use of alternative silvicultural treatments for maintaining and improving slope stability by establishing and maintaining thrifty root systems; and 4) investigate the feasibility and success of reducing logging-related failures through the use of alternative logging methods, including skylines and helicopters, and through better logging planning. The document synthesizes the results of research undertaken to fulfill the objectives.

Forest Management Practices in the Nass Valley: Summary of Technical Evaluation (ll, rdp)

Geographical location:	Northwestern British Columbia
Undertaken by:	Nishga Tribal Council prepared by Silva Ecosystem Consultants Ltd.
Years:	1983-1985
Contacts:	Nishga Tribal Council, Aiyansh, B.C. or Herb Hammond, Silva Ecosystem Consultants Ltd. R.R. 1, Winlaw, B.C. V0G 2J0

Description:

At the request of the Nishga Tribal Council, a technical evaluation of forest management practices in the Nass River portion of Tree Farm Licence No. 1 was undertaken. The results and conclusions expressed in the summary are based on field data, data summaries, research contained in the Forest Resources Study of the Nass Valley prepared by Silva in March 1984, as well as other information obtained since then. The summary outlines the requirements for forest management in the study area, and documents actual forest management practices. The effects of those practices on the people and forests of the area are described and an alternative forest management approach is suggested. Specific forest management practices documented include: manipulation of the annual allowable cut, a high grading pattern of development utilizing clear-cutting as the primary harvest system, poor timber utilization standards, inadequate soil protection resulting from high impact logging systems, and inadequate reforestation indicated by regeneration lags. Costs associated with forest management practices and economic problems in the study area are considered. Following the original Silva study, the Nishga Tribal Council presented a complaint to the British Columbia ombudsman in January 1985, requesting an investigation of "the ongoing inattention to forest management responsibilities by the provincial government and Westar Timber Ltd." The investigation, conclusions and recommendations of the ombudsman are outlined in *The Nishga Tribal Council and Tree Farm Licence No. 1, Public Report No. 4*, June 1985. The report is available from the Ombudsman's Office, 1275 West 6th, Vancouver, B.C.

Intercepting the State: Dramatic Processes in the Assertion of Local Co-management Rights (ll, rec, ef)

Geographical location: Northeastern Vancouver Island

Undertaken by: Evelyn Pinkerton

Years: 1984-1986

Contact: School of Community and Regional Planning
University of British Columbia
6333 Memorial Rd.
Vancouver, B.C. V6T 1W5

Description:

This paper questions the sufficiency of the bio-economic explanation of overfishing and overcapitalization in the British Columbia salmon fishery by examining the role of the state in inciting overcapitalization. State policies affecting the B.C. fishery are compared to those in Alaska, where certain state policies have acted to reduce overfishing and overcapitalization. In addition, Alaska has permitted a degree of self-management in some communities, thus further reducing "common property" problems. After analysis of these general questions, the paper focusses on the Nimpkish River sockeye run and its protection from overfishing by the Nimpkish Band between 1977 and the present. The community successfully influenced the state to end fishing of an endangered run at a time when the state was under great pressure to keep the fishery open.

Toward a Synthesis of Mountains, People and Institutions (ef)

Geographical location: Central British Columbia

Undertaken by: Alan Chambers
University of British Columbia
Faculty of Forestry
2075 Wesbrook Mall
Vancouver, B.C. V6T 1W5

Year: 1979

Description:

Chambers redefines environmental problems in social terms, based on the Nazko-Kluskas and Purcell Range conflicts over conservation versus logging. The real problems are seen as lying in the structure of institutions, resource tenure, communication patterns, and the taxation system. The paper argues for the economic efficiency of horizontal integration of management, and the management of whole systems.

Local-level Resource Use and Management

Co-operative Management of Local Fisheries: A Route to Development

Geographical location: Northwestern coast (Alaska, British Columbia, Washington)

Undertaken by: Evelyn Pinkerton (Paper for Society for Economic Anthropology Meeting)

Year: 1985

Contact: School of Community and Regional Planning
University of British Columbia
6333 Memorial Rd.
Vancouver, B.C. V6T 1W5

Description:

Co-management means shared decision-making on resource management between groups of fishermen and state agents. It also implies shared decision-making among individuals and/or groups of fishermen. Two case studies of co-management agreements between salmon fishermen and departments of Fisheries are examined, one involving Indian fishermen. The paper analyzes the institutional changes which such co-management arrangements appear to bring about and the implications of these changes for common property resource management theory: this theory may predict behavior in "traditional" institutional arrangements, but may not apply to others. Co-management agreements appear to change the relationships between fishermen and the state, fishermen and the fish, fishermen and fishermen, fishermen and processing companies, and fishermen and other water resource users, with the result that fishermen can see mutual advantages in cooperating more with one another in harvesting, resource conservation, marketing, etc. The theory developed in this paper became the basis for a Fisheries Co-management Conference held in Vancouver, B.C., May 8-10, 1986, at which 13 papers on various fisheries co-management arrangements were presented by Fay Cohen (Dalhousie University), Howard Horton (Oregon State), John Kearney (Université Laval), Don Amend (Southern Southeast Regional Aquaculture Association, Alaska), Milton Freeman (University of Alberta), Steve Langdon (Alaska/Anchorage), Thomas Busiahn (Great Lakes Indian Fish and Wildlife Commission), Fikret Berkes (Brock University), Nancy Weeks Doubleday (Inuit Tapirisat), Norman Dale (University of British Columbia), Marvin Shaffer (Nishga Tribal Council), Mike Morrell (Gitskan-wet'suwet'en Tribal Council), and Miles Richardson (Haida Nation).

Mission Municipal Tree Farm Licence (rec)

Geographical location: Southwestern British Columbia

Undertaken by: District of Mission

Years: 1958 - ongoing

Description:

Until very recently, the Mission Municipal Tree Farm Licence (TFL) was the only TFL in the province not managed by a multinational forest company. Managed by the Town Council of Mission, the objectives of the TFL are to employ the maximum number of local people to work directly in the forest, to obtain the highest value from wood products (fenceposts, shakes, etc.), and to practice the highest level of forest management. Unlike what occurs in standard industry

practices, harvested lands are immediately replanted, existing stands are thinned, and a nursery conducts improvement experiments, especially with yellow cedar on high elevation sites.

The Stein Valley: An Economic Report for the People of the Thompson/Lillooet Region. Community-based Economic Development: A Model for Native/Non-native Control

Geographical location: Southwestern British Columbia, upper Fraser River

Undertaken by: Michael M'Gonigle, Institute for New Economics
Natural Resources Management
Simon Fraser University
Burnaby, B.C. V5A 1S6

Year: 1984 - ongoing

Description:

This study documents the history of the human ecology of a region in southwestern British Columbia. It includes a discussion of how it has been changed by present government management and highlights resource use principles for community management.

Slocan Valley Community Forest Management Project (rdp, ef)

Geographical location: Southeastern British Columbia

Undertaken by: Concerned local citizens with grant from Secretary of State

Year: 1975

Contact: Slocan Valley Community Forest Management Project
Box 81
Winlaw, B.C. VOG 2JO

Description:

This pioneering study published its final report on the feasibility of community-based integrated resource management in forestry.

External Factors Influencing Local-level Management

Omeek Fishermen's Submission to the 1978 Sinclair Report (rdp)

Geographical location: Western coast of Vancouver Island

Undertaken by: Omeek Fishermen's Association (absorbed by Nuu-chah-nulth Fishermen's Association), Port Alberni, B.C.

Years: 1977-1978

Contact: West Coast Information and Research Co-operative
20-4965 Argyle St.
Port Alberni, B.C. V9Y 1V6

Description:

This discussion of the superiority of local fishing in small vessels focusses on their greater use of labor, their greater efficiency, and the reduced pressure on resources. The analysis is phrased as a protest against state policies which influence the trends in the B.C. fishing industry toward larger, more mobile fishing vessels.

Taking the Minister to Court: Changes in Public Opinion about Forest Management and Their Expression in Haida Land Claims (ccr)

Geographical location: Queen Charlotte Islands, northern British Columbia

Undertaken by: Evelyn Pinkerton

Year: 1983

Description:

This paper analyzes what happens when a forestry-dependent community realizes the resource is not being managed in its best long-term interest, takes legal action to bring about better forest management, and attempts to transfer more control to the local people. It examines the existing conditions which led to such actions.

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4. ORGANIZATIONS, PERIODICALS AND SCHOLARS

Organizations

Community Forestry Projects of Victoria

A network including university associates and non-academics studying community management of forests, particularly options in forestry to be learned from comparing the basic assumptions of different models: California State forests, Scandinavian forests, and B.C. forests. Volunteer, no funding. Project headed by Michael Trew, R.P.F., Suite 501, 1175 Newport, Victoria, B.C.

Community Economic Options

A women's organization sponsored by WomenSkills Development Society, including university associates and non-academics who present workshops, organize conferences, and provide consulting services on community economic development. This group has a strong interest in worker-owned co-ops, their relationship to trade unions, and the potential for non-profit societies to sponsor community businesses. Contact: Melanie Conn, 4340 Carson Street, Burnaby, B.C. V5J 2X9.

Periodicals

Forest Planning Canada, a Community Forestry Magazine

Published since 1985 by Bob Nixon, R.P.F., P.O. Box 6234, Station "C," Victoria, B.C. V8P 5L5. Coverage of major developments in the B.C. and Canadian forest industry and presentation of management alternatives.

SPARC News

Published by the Social Planning and Research Council of B.C., 106-2182 West 12th Avenue, Vancouver, B.C. V6K 2N4. With support from the United Way. Concerned with community-based economic development. Small amount of funding for research.

This House

Quarterly published by Simon and Cynthia Davies, Box 305, Port Clements, B.C. V0T 1R0. Concerned with locally based development on the Queen Charlotte Islands.

Institutions and Scholars

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Robin Ridington
M.F. Gueden

National Museum of Man, Ottawa
(working with local B.C. groups)

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Alan Chambers

SECTION VI

DENENDEH (WESTERN ARCTIC)

by

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Yellowknife, N.W.T.

and

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Dene/Metis Mapping Project
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University of Alberta
Edmonton, Alberta

1. OVERVIEW OF KEY RESOURCE ISSUES IN DENENDEH (WESTERN ARCTIC)

To a great extent, the key resource issues in the Denendeh* region stem from two major sources of conflict: conflicts between the needs of renewable and non-renewable resource sectors and conflicts between aboriginal and non-aboriginal users. Outside influences, such as the anti-trapping movement and an increasing military presence in the North, have also had significant impacts.

Background

Local resource users in Denendeh are to a great extent still participating in a subsistence economy. Hunting, trapping and fishing are primary economic activities for a large percentage of the native population, and are practiced to some extent by the majority of aboriginal people. Wage employment in most of the region is scarce, and many residents lack the necessary skills or training to take advantage of available jobs. Equally important is the fact that many resource users choose to participate in the subsistence economy on a full- or part-time basis.

Resource Use Conflict

Until fairly recently, resource management decisions were the exclusive domain of the federal government, represented by the Department of Indian and Northern Affairs. Decisions on land use have tended to be heavily weighted in favour of the non-renewable sector, with token concessions to local resource users in the form of limited terms and conditions designed to protect the local environment. Mechanisms to provide local-level input into land use and allocation decisions have been inadequate and inefficient, and for the most part are perceived by local resource users as ineffective.

Non-renewable activities (including seismic exploration and drilling, mine development, highways, hydro-electric dams and urban expansion) have encroached on key harvest areas, interfered with wildlife habitat, and directly impacted on traplines and campsites. Much conflict centres on anticipated impacts which may or may not be associated with a development. For example, local opposition to an oil pipeline south from Norman Wells focussed on the fear of an oil spill or blow-out on the Mackenzie River, although to date none have occurred.

Aboriginal resource users also perceive a threat to their traditional harvesting practices by sport and commercial hunters and fishermen, and other non-aboriginal land use activities. The anti-trapping movement has had some adverse economic impacts, although not as widespread and debilitating as in the eastern Arctic.

The establishment of parks and protected areas has been an ongoing source of conflict in some areas. Parks Canada has wanted to create a national park on the East Arm of Great Slave Lake for more than ten years, but resistance from the local native community has stalled the project. Recently, however, local residents have become more aware of the potential for protection of key harvest areas through mechanisms such as wildlife refuges, and they are considering the possibility of negotiating the establishment of parks with guaranteed management and harvest rights as part of an eventual land claims settlement.

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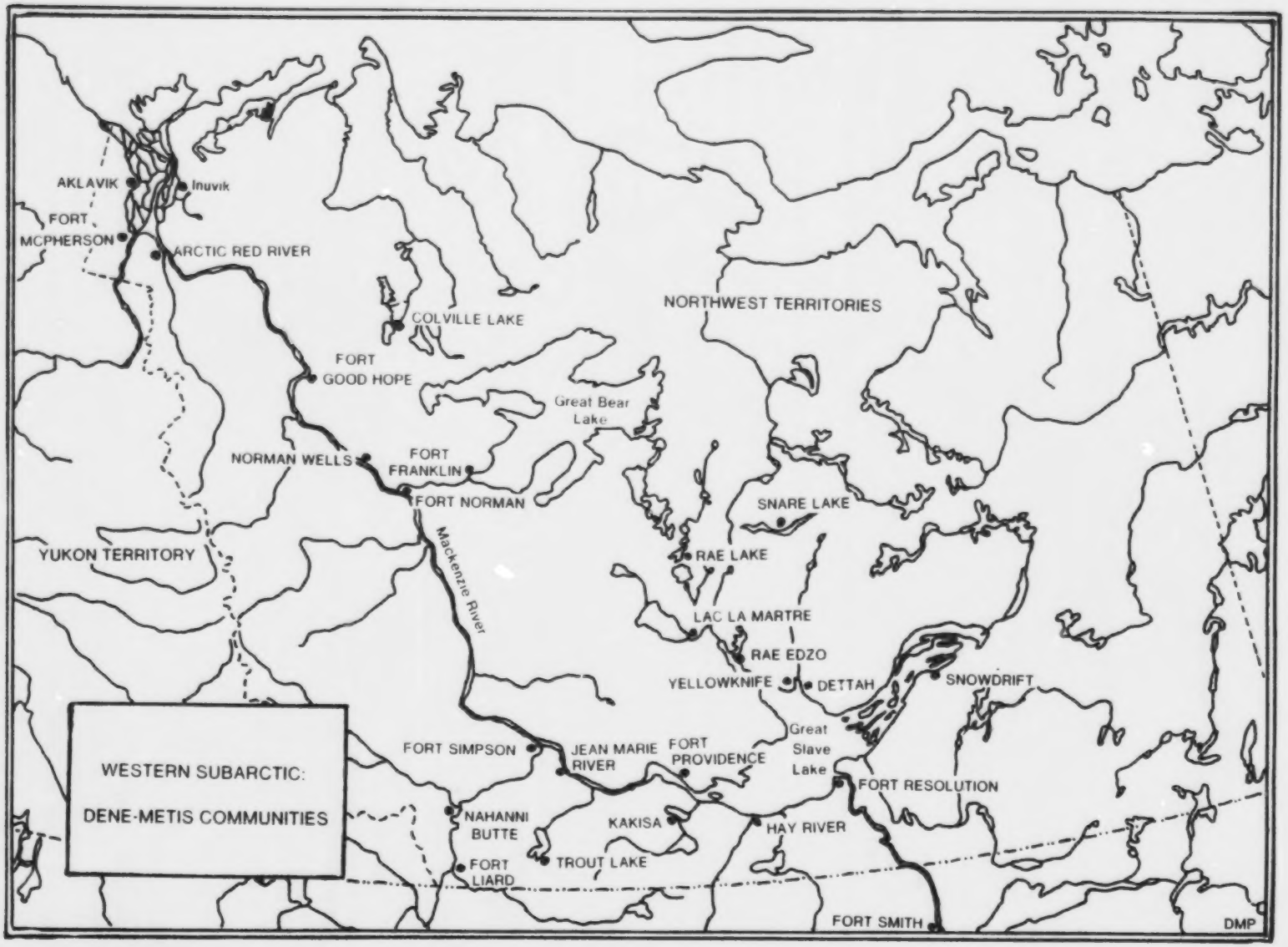
* Denendeh is the name proposed by the Dene Nation for the area of the western Arctic traditionally used by the Dene people (generally the Mackenzie River Basin).


AKLAVIK
Inuvik
FORT MCPHERSON
ARCTIC RED RIVER
COLVILLE LAKE
NORTHWEST TERRITORIES
FORT GOOD HOPE
Great Bear Lake
NORMAN WELLS
FORT FRANKLIN
FORT NORMAN
SNARE LAKE
YUKON TERRITORY
Mackenzie River
RAE LAKE
LAC LA MARTRE
RAE EDZO
YELLOWKNIFE
DETTAH
SNOWDRIFT
Great Slave Lake
FORT SIMPSON
JEAN MARIE RIVER
FORT PROVIDENCE
FORT RESOLUTION
WESTERN SUBARCTIC:
DENE-METIS COMMUNITIES
NAHANNI BUTTE
KAKISA
HAY RIVER
FORT LIARD
TROUT LAKE
FORT SMITH
DMP

Other resource issues cannot be categorized as aboriginal/non-aboriginal conflicts. For example, increasing problems with fish quality in the region have recently been linked to the presence in northern waters of airborne pollutants from the United States. While the most immediate threat to health and economic well-being is to aboriginal resource harvesters, problems such as these will ultimately affect all resource users in the region.

Political Arenas of Conflict Resolution

Land Claims: A major thrust of the proposed Dene/Metis aboriginal rights settlement is the creation of public institutions which will guarantee the involvement of local resource users in management decisions and the control of resources. Tentative agreements initialled by all parties call for the creation of a Wildlife Management Board and a Renewable Resource Management Board, with far-reaching advisory powers. Other elements of the initialled Lands and Resource Agreement ensure the involvement of aboriginal resource users in impact assessment and review, the issuing of licences and permits for land use, and planning.

Land Use Planning: The long-awaited process of land use planning is now underway in two regions of the Northwest Territories - Lancaster Sound and the Beaufort - and a Planning Commission for Denendeh is slated to be set up in the near future (see descriptive inventory). The development of land use plans for the region will include consultation and input from local-level resource users. Once the land use plan is in place, all management agencies will be expected to comply with it. There is some apprehension that the process lacks teeth because it has no legislative base.

Local Involvement in Decision-making: Throughout the region, there is a growing recognition that local resource users not only have the right to be involved in management decisions, but have knowledge that can be invaluable to the management process. Political direction from the N.W.T. Legislative Assembly, which has a majority of native members, is slowly being translated into practice at the bureaucratic level. The government's policy of affirmative action is bringing more aboriginal resource users into the decision-making levels of government. As the process of devolution, or the gradual transfer of powers from the federal to the territorial government, progresses, more control will be accorded to public institutions at the territorial and regional levels. The recently established Caribou Management Boards (see descriptive inventory) represent a trend toward increasing the participation of resource users in management, at least at an advisory level.

The territorial Department of Renewable Resources is increasingly willing to acknowledge the validity of local knowledge, and to involve local resource users in policy and planning. The newly incorporated Science Institute of the N.W.T. (see descriptive inventory) hosts an ongoing discussion group with representatives from several government departments and non-governmental agencies, on the topic of traditional knowledge and how it can be incorporated into the policy level of government.

The following descriptive inventory is not exhaustive in its list of specific projects and/or mechanisms that have involved local resource users in decision-making and management. Many such initiatives in the Denendeh region are new, and have been implemented primarily at the local or regional level. Many are neither formalized nor documented. The increasing awareness of the importance and validity of local knowledge, combined with the political will to give more management control to local resource users, will result in an increasing number of new projects and mechanisms in the future.

Focus of Current Research and Areas Requiring Further Investigation: By far the majority of research has been initiated in response to proposals for hydrocarbon development, and to a lesser extent proposals for smaller projects such as hydro-electric dams. Research has focussed

on the predicted environmental and socio-economic impacts of these projects. The resulting biological data base has been for the most part site-specific in response to development proposals, and has been compiled without input from local resource users.

Project proposals have also stimulated numerous earth and biological science studies, for example geology, geomorphology, terrain and vegetation disturbance, and permafrost disturbance. Most of this work has also been site-specific.

Only recently has attention been paid to land use patterns, harvesting patterns, and harvest levels (see descriptive inventory). This type of work has been initiated and conducted to a great extent by native organizations and the territorial government.

Areas that require further research include:

- documentation of baseline data, both environmental and socio-economic;
- land use patterns;
- local environmental knowledge;
- traditional resource management systems;
- actual impacts of hydrocarbon development projects, notably socio-economic "let-down" impacts and long-term environmental impacts; and
- impacts of development on the native subsistence economy.

In the descriptive inventory, the projects are classified according to subject categories. The categories and their abbreviations are as follows:

Headings	**Codes**
regional development planning	rdp
resource/environmental enhancement and conservation	rec
environmental assessment	ea
aboriginal land and resource agreements	aa
resource allocation	ra
conflict and conflict resolution	ccr
local-level resource use and management	ll
external factors influencing local-level management	ef

2. DESCRIPTIVE INVENTORY

Regional Development Planning

Renewable Resources Support Project (ll)

Geographical location:	Mackenzie Delta - Inuvik, Aklavik, Fort McPherson, Arctic Red River
Undertaken by:	Mackenzie Delta Regional Council
Years:	1984-1986

Contact:

Bob Simpson
Executive Director
Mackenzie Delta Regional Council
Inuvik, N.W.T. X0E 0T0

Description:

As part of its long-term comprehensive planning and development program, the Mackenzie Delta Regional Council, which represents the Dene/Metis in the Mackenzie Delta, identified the renewable resource economy as a sector it wants to strengthen and expand. This project was designed to:

- make recommendations to the Regional Council, the communities, and the local hunters and trappers associations on the economic development of the fur industry;
- provide input into the formation of government policy on support for the renewable resource sector in general and the fur industry in particular; and
- provide information on the conditions of trappers and hunters in the Delta with which to counter the anti-fur campaign.

The project comprised four phases:

1. interviews with hunters, trappers and crafts producers;
2. production of videotapes on "How the Fur Trade Works" and "Planning a Better Future";
3. community workshops; and
4. production of an economic plan for the development of the renewable resource sectors of hunting/trapping, crafts, tourism, fishing and forestry.

See Bibliography: Mackenzie Delta Regional Council, 1986.

Northern Land Use Planning Commission (aa, ll)

Geographical location: Head offices at Yellowknife, N.W.T.

Undertaken by: Negotiated agreement among Government of Canada, Government of the N.W.T., Dene Nation, Metis Association of the N.W.T. and Inuit Tapirisat of Canada, 1986

Years: 1986 - ongoing

Contact:

Northern Land Use Planning Office
P.O. Box 1500
Yellowknife, N.W.T. X1A 2R3

Description:

The Commission is made up of non-governmental members recommended by the federal and territorial governments and the native organizations in the Northwest Territories. This public body is responsible for the preparation of land use plans for the entire N.W.T. Responsibilities include: ensuring that there is public input into the preparation of land use plans; providing

direction to the Land Use Planning Office; monitoring implementation of land use plans and reporting annually to the federal Minister of Indian Affairs and Northern Development and the territorial Minister of Renewable Resources; and coordinating land use planning with other planning activities in the North.

This agreement provides for the establishment of regional Land Use Planning commissions. Two have been established - one in the Lancaster Sound region and one in the Beaufort/Mackenzie Delta. A commission for the Denendeh settlement region will be set up in the near future. (From a descriptive brochure circulated by the Northern Land Use Planning Commission)

Social and Economic Impacts of the Extension of the Mackenzie Highway to Wrigley, Northwest Territories (ccr)

Geographical location: Fort Simpson, N.W.T.

Undertaken by: Deh Cho Regional Council

Year: 1985

Contact: Scott Wiers
Deh Cho Regional Council
P.O. Box 89
Fort Simpson, N.W.T. V0V 1H0

Description:

The Deh Cho Regional Council incorporates the Band councils, Metis locals and municipal councils of the communities in the Deh Cho region of the Mackenzie Valley - Wrigley, Fort Simpson, Trout Lake, Nahanni Butte, Fort Providence and Hay River.

The study grew out of the concerns expressed by the Dene Nation, the Deh Cho Regional Council and representatives of the community of Wrigley over the possible social and economic impacts of the all-weather extension of the Mackenzie Highway to Wrigley.

The study was not intended to provide a comprehensive impact assessment. Rather, through identifying and surveying existing literature on the impact of roads on isolated northern communities, it sought to suggest what changes the community of Wrigley could expect, some indicators for measuring change, and recommendations for handling impacts at the local level.

Community Economic Development Strategy for the Mackenzie Delta (aa)

Geographical location: Inuvik, Fort McPherson, Aklavik, Arctic Red River

Undertaken by: E.T. Jackson for the
Mackenzie Delta Regional Council

Year: 1983

Contact: Bob Simpson
Executive Director
Mackenzie Delta Regional Council
Inuvik, N.W.T. X0E 0T0

Description:

The consulting firm of E.T. Jackson and Associates Ltd. carried out a major analysis of socio-economic development strategies in the Mackenzie Delta region for the Mackenzie Delta Regional Council, which represents the Dene and Metis of the Delta. The study reviewed current socio-economic conditions and suggested appropriate strategies for the future with respect to renewable resource development, non-renewable resource development, health and social services, and education and training. A five-year planning process was proposed to implement the strategies. (Taken from the project description prepared by the consultants)

Resource/Environmental Enhancement and Conservation

Consultation and Information Project on the Proposed National Park on the East Arm of Great Slave Lake (aa)

Geographical location:	Yellowknife and Snowdrift, N.W.T.
Undertaken by:	Fee-Yee Consulting Limited for the Dene Nation
Years:	1985-1986
Contact:	Felix Lockhart, Chief Snowdrift Dene Band Snowdrift, N.W.T. X0E 1A0

Description:

The project, conducted by Fee-Yee Consulting Ltd., was funded by Environment Canada (Parks). The proposal for a national park on the traditional lands of the people of Snowdrift was first put forward by the federal government in 1970, but met with strong local opposition. Parks Canada twice put the project on hold, but started discussions again with the local people in 1980-1981. It agreed to provide funds to the Dene Nation to work with the community in an attempt to reopen the discussions in the context of the forthcoming Dene/Metis land claims settlement.

The project comprised four components:

- workshops and meetings with the community and Band Council;
- hiring of two local fieldworkers to provide a steady flow of information to the community;
- participation in meetings at a political level with the Dene Nation and various government agencies; and
- production of information materials for the community regarding their options.

These were done in written, verbal and videotape format.

After one year of consultations, the community had not made a final decision on whether to accept a park, but there was improved understanding within the community of its options and the implications of each one.

See Bibliography: Dene Nation, 1986d.

Drum Lake Archaeological Field School (ll)

Geographical location:	Drum Lake, N.W.T.
Undertaken by:	Prince of Wales Northern Heritage Society and Northern Oil and Gas Action Programs
Years:	1985-1986
Contact:	Christopher Hanks Subarctic Archaeologist Prince of Wales Northern Heritage Centre Government of the Northwest Territories Yellowknife, N.W.T. X1A 2L9

Description:

"Drum Lake field school is located 166 km southeast of Norman Wells in the Mackenzie Mountains. The site was chosen because there is a long series of archaeological sites spanning a time period from precontact to present. Present-day Mountain Dene from Fort Norman know the area intimately. They use this knowledge in fulfilling a vital role as traditional land use instructors for the project. Elders' knowledge is combined with archaeological field methods to give the students the background they require to undertake archaeological field work. Drum Lake [field school] has sought to use traditional Dene modes of teaching by participant observation, oral history and analogy....

"[A]n experimental program was developed in which students learn to build fish camps, interview elders on regional land use and make stone tools before they are introduced to actual archaeological survey and excavation....

"[The field school's] main objective has been to develop and evaluate a curriculum that can be used to rapidly train native residents of the Mackenzie Valley for work as field assistants on archaeological projects arising from hydrocarbon development in the Beaufort Sea-Mackenzie Valley area." (Leggat and Hanks, 1987)

See Bibliography: Leggat and Hanks, 1987; Hanks and Pokotylo, 1986.

Environmental Assessment

Norman Wells Monitoring Program (ccr, ll, ef)

Undertaken by:	Dene Nation
Years:	1983-1986
Contact:	Dene Nation Attention: Margie Gorman Box 2338 Yellowknife, N.W.T. X1A 2P7

Description:

When the Government of Canada approved the Norman Wells Oilfield Expansion and Pipeline Project in 1981, it announced that $21 million in impact funds would be made available to the government of the N.W.T. and Mackenzie Valley native organizations. The Dene Nation gave

conditional approval to the government project. One of its conditions was the establishment of a Monitoring Agency, with equitable representation from native groups and the territorial and federal governments, to oversee both environmental and socio-economic monitoring initiatives associated with the project.

After two years of negotiations, the Dene Nation accepted that such an agency would not be part of the government's game plan. Instead, it used that portion of the impact funding allocated for monitoring to set up an internal program designed to monitor all aspects of the project during construction and start-up, and to develop an ongoing mechanism for dealing with problems which might arise during the life of the project. More specifically, the program's terms of reference included:

- ensuring that government environmental standards and guidelines were adequate;
- ensuring that Esso and Interprovincial Pipeline Ltd. (IPL) internal company standards and commitments made at public hearings and in their documentation were met;
- ensuring that the specific interests of the Dene communities affected by the project were protected;
- training Dene in the necessary skills to be actively involved in monitoring; and
- evaluating the final environmental, social and economic effects of the project.

The program encountered delays in funding which hampered its effectiveness from the start. However, there were a number of significant accomplishments, including the following:

1. designing and sponsoring a training program for community residents in environmental monitoring skills which could be applied at the community level;
2. lobbying successfully for the creation of an Environmental Working Group (see a more detailed description of this group under "Conflict and Conflict Resolution");
3. establishing a socio-economic impact monitoring study in partnership with the University of British Columbia's School of Community and Regional Planning (see description under the Dene Gondie study); and
4. lobbying successfully with federal government departments to initiate a wide-ranging study of problems with the quality of Mackenzie River fish, first noted by residents of communities who depend upon the fish for their subsistence.

The program produced eight major papers on the project and was widely credited with creating an awareness in the Mackenzie Valley that local resource users must be involved in impact monitoring and assessment.

(Taken from Dene Nation, 1985b, and pers. comm.)

Fort Good Hope Resource Development Impact Project (ll, ef)

Geographical location:	Fort Good Hope, N.W.T.
Undertaken by:	Fort Good Hope Dene Community Council
Years:	1982-1983, 1984-1986

Contact: George Barnaby
Dene Community Council
Fort Good Hope, N.W.T. X0E 0H0

Description:

The Dene community of Fort Good Hope obtained Resource Development Impact (RDI) funds from the Department of Indian Affairs and Northern Development in 1982-1983, and again in 1984-1985 and 1985-1986. The funds were used to sponsor a number of projects designed to address the concerns of local resource users while drawing on their expertise. The projects included a critique of the Norman Wells Oil Spill Contingency Response Plan. (See also additional projects listed in the Local-level Resource Use and Management section)

After a significant amount of oil spilled at Norman Wells in the summer of 1982, residents of Fort Good Hope became alarmed at the possibilities for major environmental disaster associated with the oilfield expansion project. Fort Good Hope is the first community downstream from Norman Wells. The community obtained the Esso Resources Ltd. contingency plan for oil spill response, and found it fell far short of their expectations. It hired a consultant with experience in the field to do a detailed critique of the plan, which eventually resulted in the N.W.T. Water Board accepting the community's position and requiring far-reaching amendments to the plan.

(Information based on pers. comm. and D. DeLancey's involvement in the projects)

Aboriginal Land and Resource Agreements

Discussion Paper on Parks Legislation and Aboriginal Claims (rec, rdp)

Geographical location: Inuvik, N.W.T.

Undertaken by: Letha MacLachlan for the
Mackenzie Delta Regional Council

Year: 1986

Contact: Bob Simpson
Executive Director
Mackenzie Delta Regional Council

Description:

This discussion paper was prepared for the Mackenzie Delta Regional Council by Letha J. MacLachlan. It outlines the existing legislation and management regimes relating to federal and territorial parks, and gives an overview of how parks have been addressed in native claims settlements both in Canada and the U.S. It then outlines in some detail the possibilities for using parks in the Dene/Metis land claims negotiations process to establish protected areas which would give the Dene/Metis some continued rights in the use and management of the resources.

See Bibliography: MacLachlan, 1986a.

Fort Good Hope Interim Lands Procedures (rdp)

Geographical location: Fort Good Hope, N.W.T.

Undertaken by: Fort Good Hope Dene Community Council

Years: 1984 - ongoing

Contact: Fort Good Hope Community Council
Fort Good Hope, N.W.T. X0E 0H0

Description:

In 1982, the Fort Good Hope Council met with John Munro, then Minister of the Department of Indian Affairs and Northern Development (DIAND), to request the establishment of an interim protection agreement for community lands. Members of the community felt that through issuance of permits and leases, their rights to their traditional lands were being eroded in the absence of a land claims settlement. The Minister assented, and negotiations resulted in the signing of an agreement in 1984 that gave the community significantly more input into decisions on the use of lands around the community than is the case with other northern communities. Among other protective innovations, developers are required to consult with the Community Council on project proposals before approaching the DIAND Lands Office for a land use permit.

The history of the agreement and the effectiveness of its first year of existence have been documented in a paper prepared for the Dene Nation by Fee-Yee Consulting Ltd.

See Bibliography: Dene Nation, 1986e.

Chevron/Fort Good Hope Joint Venture (rdp)

Geographical location: Fort Good Hope, N.W.T.

Undertaken by: Fort Good Hope Community Council and
Chevron Canada Resource Ltd.

Year: 1987

Contact: Fort Good Hope Community Council
Fort Good Hope, N.W.T. X0E 0H0

Description:

This agreement is the result of several years' negotiations between the community and oil companies. The two parties have created a joint venture company which will conduct seismic work, and possibly undertake drilling, on lands traditionally used by the community. Joint committees have been set up to oversee business development and employment, environmental monitoring, and compensation. Industry and the community participate equally in managing and overseeing the project.

Resource Allocation

Caribou Management Boards (ll)

Geographical location: Various locations; secretariat at
Yellowknife, N.W.T.

Undertaken by: Federal, territorial and provincial governments, native organizations

Years: 1984 - ongoing

Contact: Department of Renewable Resources
Government of the N.W.T.
Yellowknife, N.W.T. X1A 2L9

Description:

The Beverly-Kaminuriak Caribou Management Board is a joint federal/territorial/provincial agency with representation from native user groups. It monitors and initiates research, and advises the appropriate levels of government on management plans for the Beverly-Kaminuriak herd.

The Porcupine Caribou Management Board includes representation from the federal government, both territorial governments and native user groups.

Conflict and Conflict Resolution

Norman Wells Project Joint Environmental Working Group (ea, ef)

Geographical location: Yellowknife, N.W.T.

Undertaken by: Norman Wells Project Coordinating Committee
Dene Nation

Years: 1984-1986

Contacts: Department of Indian Affairs
and Northern Development
Northern Affairs Program
Yellowknife, N.W.T.

or Dene Nation
Attention: Margie Gorman
Box 2338
Yellowknife, N.W.T. X1A 2P7

Description:

When the Dene Nation recognized that its call for a full-fledged monitoring agency to oversee the Norman Wells pipeline project was not going to be met by the government, it proposed the establishment of a joint environmental working group as a compromise. The proposal was made to the Norman Wells Project Coordinating Committee, a tripartite (government, industry and native organizations) advisory group set up by the Department of Indian Affairs and Northern Development to coordinate issues and public concerns related to the project.

The Norman Wells Project Joint Environmental Working Group was set up as a sub-committee of the Project Coordinating Committee. It was not intended to assume the responsibilities of existing government agencies involved in monitoring activities, but rather to act as a coordinating body and a single forum where community concerns over the environmental impacts of the project could be raised. Its mandate also included the dissemination of information on the results of environmental monitoring projects to native

communities. Its membership comprised one representative each of the federal government, the government of the N.W.T., the Dene Nation, and the Metis Association of the N.W.T. The Working Group was active until the construction phase of the pipeline project was completed.

See Bibliography: Intergroup Consulting Ltd., 1985.

Mackenzie Valley Pipeline Inquiry (ea)

Geographical location: Mackenzie Valley

Undertaken by: Government of Canada

Years: 1974-1977

Description:

The Inquiry was established to report on the terms and conditions that should be imposed with respect to any right-of-way that might be granted by the Crown for a natural gas pipeline through the Mackenzie Valley. In the mid-1970s, there were two pipeline proposals before the federal government, and considerable opposition from the native residents of the Mackenzie Valley.

The Inquiry heard formal evidence on engineering and construction and on the impact of a pipeline on the physical, living, and human environments. Informal hearings held in 35 communities gave local resource users a chance to voice their concerns about the impacts of the project, as well as to present evidence based on local and traditional knowledge.

See Bibliography: Berger, 1977.

Local-level Resource Use and Management

Land Use Planning Survey (rdp)

Geographical location: Inuvik, N.W.T., and Mackenzie Delta communities

Undertaken by: Government of the N.W.T.
Department of Renewable Resources
Land Use Planning Section

Year: 1987

Contact: Jill Pangman
Government of the N.W.T.
Department of Renewable Resources
Inuvik, N.W.T. XOE OAO

Description:

Four inventories are proposed to gather information from community residents to assist in making decisions regarding the use of the land, water and resources of the region: a resource inventory, a land use inventory, a wildlife inventory, and a "sites of importance" inventory. The information is obtained from local resource users through interviews and workshops. The overall goal is to build a knowledge base which will:

- help community residents involved in planning to take stock of the resources that surround and affect the community;

- serve as the basis for the establishment of planning priorities within each community; and

- make information accessible to the communities.

(Taken from "Land Use Planning Resource Inventory Survey," a document prepared for the staff of the N.W.T. Department of Renewable Resources)

Dene/Metis Mapping Project on Land Use and Occupancy (aa)

Geographical location:	School of Native Studies, University of Alberta and Yellowknife
Undertaken by:	Dene Nation and Dene/Metis Negotiations Secretariat
Years:	1972 - ongoing
Contact:	Thomas D. Andrews School of Native Studies University of Alberta Edmonton, Alta. T6G 2H1

Description:

In the early 1970s, the Dene leadership directed the Dene Nation to conduct a traditional land use and occupancy study to document the Dene and Metis interest in the western Northwest Territories in preparation for land claims negotiations with the federal government, and in response to the Berger Inquiry.

Between 1972 and 1980, a 30% sample of Dene/Metis harvestors were interviewed on their traditional hunting, fishing and trapping practices. The data was recorded on maps and in accompanying biographies. Approximately 600 Dene/Metis consultants participated in the study, which covered land use over an area of 450,000 miles^2 (1,165,500 km^2) of the western N.W.T., the Yukon and the northern portions of the western provinces. Dene and Metis fieldworkers, under the direction of Phoebe Nahanni, collected the initial data and conducted the interviews.

In 1981 the Dene Mapping Project (DMP) was moved to the Department of Anthropology at the University of Alberta, under the direction of Dr. Michael Asch. A Geographic Information System (GIS) was developed to record the traditional land use data on the university's main-frame computer system. This aspect of the project was completed in early 1983. Since then, the DMP has managed the computer data base and has provided support in land-related issues at both the community level and in claims negotiations with the federal government.

See Bibliography: Asch, et al., 1986; Nahanni, 1977.

Traditional Knowledge Survey (ea)

Geographical location:	Fort Good Hope, N.W.T.
Undertaken by:	Fort Good Hope Community Council
Years:	1985-1987
Contact:	George Barnaby Fort Good Hope Dene Community Council Fort Good Hope, N.W.T. X0E 0H0

Description:

The project was designed to establish a data base for environmental assessment purposes, and to develop a method which could be applied in other communities to document traditional knowledge.

Data was collected on moose, caribou and fish. Two community researchers interviewed local resource users and translated and transcribed the results. Data was collected on behaviour patterns, calving areas, and fish migration, nursery and spawning areas.

Fort Good Hope Harvest Survey (ea)

Geographical location:	Fort Good Hope, N.W.T.
Undertaken by:	Fort Good Hope Community Council
Year:	1982
Contact:	George Barnaby Fort Good Hope Dene Community Council Fort Good Hope, N.W.T. X0E 0H0

Description:

In 1982, the Council initiated a harvest survey, both for impact assessment purposes and as background information for the preparation of compensation claims in the event of significant damage from oil- and gas-related development. A questionnaire form was designed and local fieldworkers took it to more than 66% of local households.

The project was hampered by lack of funding. The funds for the next fiscal year for the Resource Development Impact program were not approved and, after several months of attempts to locate alternative funding sources, the project was left unfinished. The data has been kept on file and in fact was used in the preparation of a report for the Environmental Studies Revolving Funds. (Usher, et al., 1985) However, in its present form, it is of no use to the community nor to any other agencies.

Work that remains to be done includes:

- storing of data on computer disks;
- summarizing of data;

- cross-checking data with that of the government of the N.W.T. and other data bases; and

- analysis and preparation of a written report.

Government of the Northwest Territories Harvest Surveys

Geographical location:	Headquarters in Yellowknife, N.W.T.; Regional surveys in Keewatin, Kitikmeot, Baffin, Inuvialuit, Mackenzie Valley, North Slave Lake, South Slave Lake
Undertaken by:	Government of the N.W.T. Department of Renewable Resources
Years:	1986 - ongoing
Contact:	Dyan Grant-Francis Harvest Analyst Wildlife Management Division Department of Renewable Resources Government of the N.W.T. Yellowknife, N.W.T. X1A 2L9

Description:

The purpose of the harvest surveys is to collect and provide accurate harvest information in a format which is useful to both resource managers and user groups. Harvest data is collected by community fieldworkers who interview hunters and keep track of active and inactive hunters. Regional field coordinators verify the incoming data and input it on a computer-based data management program. Monthly and annual reports on native harvests are produced.

The Economic Use by Native Peoples of the Resources of the Slave River Delta

Geographical location:	Fort Resolution, N.W.T.
Undertaken by:	Kenneth Bodden
Years:	1975-1977
Contact:	Department of Geography University of Alberta Edmonton, Alta. T6G 2H1

Description:

"This study attempted to prove that natural resources harvested from the Slave River Delta are economically important to the community of Fort Resolution. In addition, the research attempted to prove that resource harvesting is concentrated during times of periodic resource abundance and the resulting heavy harvesting pressure may cause deterioration of more sedentary wildlife resources through overharvesting. The objectives of this thesis were to record the actual harvest of resources from the delta, record harvesting techniques and specific resource areas, document resource utilization, assign an economic value to the resource harvest, and compare the resource harvesting sector to the other sectors of the local economy where possible. The importance of the traditional lifestyles was examined in relation to the wage

employment sector to enable observations to be made on the future of traditional activities in the community....

"The income generated by natural resource harvesting activities in the Slave River Delta in 1975-76 accounted for approximately 35.6 percent of the total community income. This value ranked above both the wage employment and social assistance payments. The value of country food also exceeded the value of fur taken from the delta. In 1976-77, the percentage of the total community income represented by the delta's production was less than the wage employment sector but greater than the social assistance sector. As in 1975-76 the value of country food exceeded the value of the fur harvested from the delta." (*Abstract* in Bodden, 1981)

Value and Compensation: Subsistence Production in the Dene Economy

Geographical location: Fort Good Hope, N.W.T.

Undertaken by: Shirleen Smith

Years: 1984-1986

Contact: Shirleen Smith
9930 - 112 St.
Edmonton, Alta. T5K 2L7

Description:

"Ascribing a cash value to the products of bush activities of the Dene of the Northwest Territories ... resulted from a need to demonstrate the significance of these activities in the face of increased northern development....

"Utilizing techniques such as the calculation of the cash value of locally available food products that could substitute for food acquired through hunting, fishing, and gathering, researchers were successful in establishing the importance and viability of subsistence production. However, most researchers cautioned that the precise results obtained were exceedingly general and approximate, and did not actually represent the total value of bush products to the people using them....

"An alternative framework for assessing the significance of the bush-subsistence sector of the Dene economy is proposed in the form of a political economy/mode of production analysis. The merits of this approach are that it enables the inclusion of aspects that were designated as intangibles in previous studies through its attention to the social relations of production; it is concerned in part with the historical background and thus affords a broader perspective than the limited view of previous valuation studies; and it is possible to analytically separate the case-market sector from the subsistence of the Dene economy....

"Finally, the ability of compensative and mitigative measures to ensure the continued ability of the Dene to conduct their way of life is questionable. Due to the tendency of compensative measures to deal only with specific, fixed, and finite assets, compensation is inappropriate for protecting the fluctuating, systemic, and social resources at stake in subsistence production." (*Abstract* in Smith, 1986b)

Community Renewable Resource Harvest Maps

Geographical location:	Headquarters in Yellowknife Renewable Resource Harvest Maps completed for Mackenzie Valley communities of Trout Lake, Fort Simpson and Jean Marie River, and Wrigley
Undertaken by:	Department of Renewable Resources Government of the Northwest Territories
Years:	Data collection - 1985 Map production - 1986
Contact:	Steven Matthews Environmental Assessment Biologist Department of Renewable Resources Government of the Northwest Territories Yellowknife, N.W.T. X1A 2L9

Description:

A digital, mapped data base was produced for four Mackenzie Valley communities. Community fieldworkers collected renewable resource harvesting information from General Hunting Licence holders during the winter of 1984-1985. Information was mapped at a scale of 1:250,000, transferred to computer data files using AutoCad, and reproduced in colour on semi-transparent mylar film. A total of 16 base maps were digitized along with a series of overlays for each map. A composite community harvesting map contains the following information:

1. Base map - hydrology;
2. Relief - selected contours;
3. Exploration, development and transportation;
4. Species harvest - ungulates, fish, etc.;
5. Family trapping areas - species trapped and areas used;
6. Traplines - individual traplines, outpost camps, archaeological sites.

Science Institute of the Northwest Territories

Geographical location:	Yellowknife, N.W.T.
Undertaken by:	Government of the N.W.T.
Years:	1984 - ongoing
Contact:	Dr. Robert R. Janes Executive Director Science Institute of the N.W.T. Box 1617 Yellowknife, N.W.T. X1A 2P2

Description:

The Science Institute is a free-standing entity associated with the Government of the N.W.T. The G.N.W.T. provides core funding and administrative support. The Institute is connected to the G.N.W.T. in three ways: 1) it reports to the Legislative Assembly of the N.W.T.; 2) its members are appointed by the Executive Council of the G.N.W.T.; and 3) it must, by law, answer questions in the fields of science and technology put to it by the Legislative Assembly.

The Institute has five major objectives:

1. to foster a resident scientific community within the N.W.T. which recognizes and uses relevant traditional knowledge of aboriginal people;

2. to extract and disseminate scientific knowledge from ongoing research;

3. to identify and conduct research which will contribute to the social and economic prosperity of the people of the N.W.T.;

4. to licence, coordinate and facilitate research being done in the N.W.T.; and

5. to provide sound and humane advice on scientific matters to the government of the N.W.T. and the public.

(From Janes, 1986)

External Factors Influencing Local-level Management

Mackenzie Environmental Monitoring Project (ea, ccr)

Geographical location:	Tuktoyaktuk Peninsula, Mackenzie Delta, and Mackenzie Valley north of Fort Norman
Undertaken by:	Department of Indian and Northern Affairs, Environment Canada, Department of Fisheries and Oceans, Government of the N.W.T., and Yukon Territorial Government.
Years:	1985-1986
Contact:	Fred McFarland Northern Environment Directorate Indian and Northern Affairs Canada Les Terrasses de la Chaudière Ottawa, Ont. K1A 0H4

Description:

This interdepartmental project was designed to address concerns about the impacts of hydrocarbon development in the specified region, and to recommend a research and monitoring program that will:

1. address significant potential impacts;

2. be based on the best current understanding of industrial development scenarios and ecological processes;

3. have the capability to respond to changing industrial development scenarios and new information regarding ecological processes in the region;

4. be applicable and practical; and

5. be supported with a full technical and scientific justification.

The project proceeded through a series of workshops and technical meetings during which a number of impact hypotheses were formulated, discussed, and then either rejected or pursued. More specifically, the approach included the following tasks:

1. identification of valued ecosystem components;

2. identification of development activities;

3. identification of the temporal horizon and within-year resolution;

4. identification of the spatial extent and resolution;

5. identification of impact hypotheses that causally relate development activities to valued ecosystem components;

6. screening of impact hypotheses for validity, relevance and credibility;

7. evaluation of impact hypotheses; and

8. design of research and monitoring program.

Participants in the process included a variety of technical specialists, some employed by the sponsoring government agencies and others hired on a contract basis, and local resource users from the communities in the study region.

See Bibliography: Indian and Northern Affairs Canada, et al., 1986.

The Dene Gondie Study: Dene Perceptions of the Impacts of the Norman Wells Project (ea)

Geographical location:	Yellowknife and Mackenzie Valley from Fort Good Hope to Fort Simpson
Undertaken by:	Dene Nation and School for Community and Regional Planning, University of British Columbia
Years:	1984-1986
Contact:	Dene Nation Attention: Margie Gorman Box 2338 Yellowknife, N.W.T. X1A 2P7

Description:

The Dene Gondie Study documents Dene perceptions of the impact of the Norman Wells Project on individuals and communities in the Mackenzie Valley. The study is the first to be carried out jointly by university researchers and the Dene themselves, and this is reflected in the study's name, Dene Gondie, a Slavey phrase which means "people's word." Dene Nation staff

and Dene community residents were involved in every aspect of the study, from design to implementation.

The Dene Gondie study grew out of Dene frustrations with the Norman Wells Project and the federal regulatory and monitoring regime. The project, which involved expansion of the existing Norman Wells oil field and construction of a small diameter pipeline from Norman Wells to Zama, Alberta, was seen by many in the North as a pilot project to assess the impacts and benefits of development of the non-renewable resources of the N.W.T.

The Dene were not given a significant role in the regulatory and monitoring regime and encountered difficulty in gaining access to the promised federal funding. They were also highly critical of the socio-economic monitoring study being conducted by the Department of Indian and Northern Affairs, which they perceived as being biased toward the project and receiving very little support at the community level.

In the spring of 1984, at the end of the first year of pipeline construction, the Dene Nation entered into an agreement with the University of British Columbia's School for Community and Regional Planning and the study began. Its objectives were to gather credible information about the project's impact on the communities; to provide better socio-economic planning information to the communities, regional councils and the Dene Nation; to publish and publicize the Norman Wells experience; and to provide training to the Dene and to southern-based university students.

The study acknowledged the importance of local and community knowledge, and attempted to use this knowledge. Rather than looking for "objective" indicators, Dene Gondie used people's own understanding of how their lives and communities had been affected by the Norman Wells Project. The study was also seen as a prototype for future joint research efforts.

See Bibliography: Dene Nation, 1986c.

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MAB/CANADA DE L'UNESCO

LA GESTION COMMUNAUTAIRE DES RESSOURCES AU CANADA : INVENTAIRE DES RECHERCHES ET DES PROJETS

RAPPORT
JUILLET 1989

21

MAB

LA GESTION COMMUNAUTAIRE DES RESSOURCES AU CANADA: INVENTAIRE DES RECHERCHES ET DES PROJETS

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Rédigé par le Groupe de travail du MAB/Canada sur
l'écologie humaine des zones côtières

MAB/CANADA
COMMISSION CANADIENNE POUR L'UNESCO

RAPPORT 21

PRÉFACE

Nombre de Canadiens dépendent de la faune aquatique et terrestre pour leur subsistance. La majorité des consommateurs de ressources primaires sont géographiquement isolés de la société industrielle et commerciale, urbanisée et axée sur le développement. Bon nombre croient qu'ils sont en outre politiquement isolés des décisions que prend cette société, en particulier de celles qui touchent l'accès aux ressources naturelles et leur exploitation. C'est la raison du nombre croissant de conflits entre grands et petits producteurs et entre intérêts nationaux et locaux. Par ailleurs, l'infrastructure de gestion qui découle des accords internationaux et qui recourt à des modèles bio-économiques ultra-simplistes a contribué à l'érosion du contrôle exercé sur l'utilisation des ressources par les gens de l'endroit.

L'expansion sans précédent de l'intervention gouvernementale dans la conception, la surveillance et la mise en pratique des systèmes de gestion des ressources a peut-être été nécessaire, étant donné la complexité des circonstances et les menaces dont était l'objet l'utilisation durable. Mais le coût financier en est élevé, et certains estiment que le coût social l'est encore plus. Les spécialistes et les administrateurs des ressources et leurs maîtres politiques commencent à tenir compte de ces préoccupations. Les revendications des peuples autochtones et des autres groupes dont l'économie repose sur les ressources commencent à se faire entendre davantage dans le dialogue maintenant engagé pour trouver de nouvelles formules de gestion. Les connaissances traditionnelles, la gestion communautaire et la co-gestion sont autant d'expressions qui s'ajoutent au vocabulaire des décisions concernant les ressources naturelles et l'environnement. Au Canada, pour des centaines de collectivités, particulièrement du Nord et des zones côtières, le débat concerne directement leur mode de vie axé sur l'utilisation durable des ressources.

La question de l'interaction entre l'homme et l'environnement est une préoccupation centrale du programme de l'Unesco sur L'Homme et la biosphère (MAB), programme mondial de coopération scientifique internationale établi en 1971, auquel le Canada participe depuis 1974. Le programme MAB contribue à l'accroissement des connaissances scientifiques nécessaires à la gestion rationnelle et à la conservation des ressources naturelles. Comme il s'intéresse de près à l'intégration des sciences naturelles et sociales et à leurs rapports avec la technologie, la façon dont les collectivités riches en connaissances traditionnelles sur les ressources mettent en valeur les rôles traditionnels ou en créent de nouveaux est une question des plus pertinentes pour le MAB. Récemment encore, le programme comportait 14 thèmes distincts, dont plusieurs avaient trait à l'utilisation des ressources marines et côtières. Le Canada a demandé que les thèmes marins et côtiers aient la priorité dans le programme MAB international, en grande partie parce qu'ils occupent une place si importante dans sa propre économie et sa propre culture.

Au Canada, le MAB fonctionne dans le cadre de la Commission canadienne pour l'Unesco par l'intermédiaire d'un comité national de 15 membres. À une réunion qui s'est tenue à la Maison Stanley en 1983, le Comité MAB/Canada de l'Unesco a convenu d'établir un Groupe de travail sur l'écologie humaine des zones côtières avec une modeste subvention du ministère fédéral des Pêches et océans. Le thème central à explorer était la dimension humaine de l'utilisation des ressources, notamment des ressources aquatiques, mais également le contexte régional, par exemple la gestion des terres et des eaux côtières.

Le Groupe de travail se compose de scientifiques et d'écologistes qui s'intéressent aux connaissances traditionnelles découlant des décennies, voire des siècles, de contact direct et saisonnier avec une unité de ressources donnée. Le Groupe cherche à mieux comprendre comment les collectivités locales et les usagers des ressources peuvent renseigner le gouvernement ou influer sur les activités de gestion des ressources (collecte de données, surveillance, application).

Deux ateliers, auxquels ont participé des spécialistes des sciences naturelles et sociales, ont été organisés pour faciliter l'échange de renseignements sur la gestion traditionnelle et locale. En dépit de la quantité de recherches déjà effectuées, l'information disponible était jugée insuffisante et les discussions ont eu tendance à rester au niveau des notions, qui n'étaient pas toujours étayées d'études de cas.

L'idée de cette compilation a pris forme au cours du premier atelier, qui a eu lieu en avril 1984 à Halifax et dont l'objet était d'explorer la notion de la gestion communautaire. Les représentants des régions de l'Atlantique, de l'Arctique et des Grands lacs qui y ont pris part se sont vite rendu compte qu'il fallait améliorer les communications sur les travaux qui se font dans les différentes parties du pays et qu'une identification systématique des études pertinentes, en cours ou récentes, aiderait concrètement ceux que ce thème intéressait.

L'ouvrage ainsi réalisé, il est à espérer, répondra au besoin initial, c'est-à-dire faire connaître aux chercheurs et aux décideurs tout ce qui a déjà été fait. Y figurent 115 études, dont certaines ne portent pas sur les zones côtières, mais y sont reliées de près. La compilation n'est pas exhaustive et pourra faire l'objet de nouvelles éditions étant donné qu'elle représente, dans une large mesure, les réseaux personnels des collaborateurs et des directeurs de rédaction.

Les suites directes de cette compilation dépendront de l'intérêt que continuera à y accorder le MAB/Canada de l'Unesco même si ses ressources financières sont limitées et si de nouvelles priorités sont établies. Il est certainement possible de dégager une synthèse de la situation à partir des données contenues dans les aperçus et les cas, et il serait utile de compléter l'inventaire, qui ne couvre pas toutes les régions géographiques ni toutes les questions.

Il ressort des travaux faits jusqu'ici que les décideurs et les planificateurs peuvent faire participer, et font participer, les collectivités à l'administration des ressources naturelles et à certains projets de développement, et que les interventions de certains organismes autochtones ont eu beaucoup d'influence. Plusieurs ministères gouvernementaux devraient maintenant examiner tout ce qui pourrait encore être fait. Le document de travail que le ministère des Pêches et océans a réalisé en 1987, intitulé *Stratégie canadienne de conservation du milieu marin arctique*, par exemple, fait ressortir la nécessité d'approches fondées sur "la gestion partagée". En tenant compte de ceux qui n'ont été que trop ignorés dans l'application de la science moderne à la gestion des ressources, il devrait être possible d'en arriver à une approche plus équitable et, à la longue, plus avantageuse pour l'utilisation de l'environnement par l'homme.

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SOMMAIRE

Depuis quelques années, on s'intéresse de plus en plus aux régimes communautaires de gestion des ressources, par opposition aux systèmes administrés par l'État. Dans les régimes communautaires, les décisions sont prises par les collectivités, à titre de gestionnaires autonomes, ou de concert avec les organismes gouvernementaux, selon diverses formules de partage des responsabilités. En ce qui concerne les zones côtières, ces décisions peuvent porter sur une gamme étendue de questions, dont la planification du développement de la région, la mise en valeur et la conservation, la répartition des ressources, et l'évaluation environnementale et socio-économique des projets de développement. Pays doté d'une étendue infinie de côtes le long des océans Pacifique, Atlantique et Arctique, des Grands lacs et d'autres eaux intérieures, le Canada renferme divers cadres dans lesquels les systèmes communautaires peuvent être utilisés avec efficacité pour gérer les ressources côtières.

À l'heure actuelle, toutefois, on possède peu d'information sur l'existence et le fonctionnement de ces systèmes dans les zones littorales du Canada, et l'objet du présent ouvrage est de combler cette lacune. Entrepris comme projet du Groupe de travail sur l'écologie humaine des zones côtières - groupe établi par le Comité canadien pour le programme de l'Unesco sur L'Homme et la biosphère (MAB) -, il vise à fournir des informations utiles - et utilisables - sur les recherches et les projets de gestion communautaire des ressources dans six régions: la Nouvelle-Écosse, la zone côtière du Québec, la baie James, les Grands lacs/Ontario, la zone côtière de la Colombie-Britannique et le Denendeh (Arctique de l'Ouest).

Les sections concernant chacune de ces régions renferment: 1) un aperçu des principales questions que soulèvent les ressources; 2) un inventaire descriptif des études et projets; 3) une bibliographie; et 4) une liste de chercheurs, d'instituts, d'organismes et de périodiques. Les inventaires descriptifs, qui forment la deuxième partie de chaque section, suivent tous le même ordre de catégories (y compris la mise en valeur et la conservation des ressources, la répartition des ressources et le règlement des conflits) et comprennent en tout 115 entrées. L'uniformité de la présentation permet aux lecteurs de dégager les similitudes entre les sections et d'utiliser les informations dans un contexte comparatif.

Le rapport comprend aussi une Préface dans laquelle est décrit le programme canadien sur L'Homme et la biosphère (MAB), parrain du projet, ainsi qu'une Introduction, qui explique brièvement ce qu'est la gestion communautaire des ressources et retrace la genèse de l'ouvrage. L'Introduction décrit en outre la présentation suivie et propose diverses façons d'utiliser les données. Enfin, l'Index établit des renvois par matière entre les diverses régions. Quatre cartes géographiques sont également fournies.

Les directeurs de rédaction et les collaborateurs espèrent que cet ouvrage sera utile à tous ceux qui s'intéressent à la gestion communautaire des ressources au Canada. Bien que l'information qu'il contient ne soit évidemment pas complète, ils souhaitent que les travaux qui se feront par la suite au Canada permettront de la compléter. Ils espèrent également que leur travail encouragera la réalisation d'ouvrages de même nature dans d'autres pays, afin que soit mieux compris le fonctionnement des systèmes communautaires de gestion des ressources dans le contexte international.

INTRODUCTION

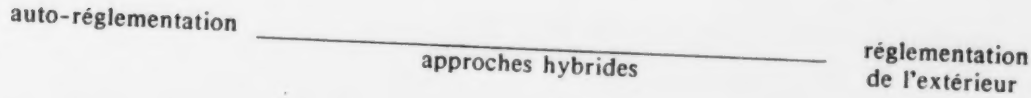
La gestion des ressources renouvelables est parvenue à un carrefour. Son coût dépasse largement le rendement qu'en tirent les consommateurs primaires, les utilisateurs secondaires et les économies nationales. Les frais de recherche, de développement, d'administration et d'application l'emportent souvent sur les avantages nets de l'utilisation des ressources. Dans certains cas, les usagers contestent l'exactitude des avis scientifiques, et le recours à la réglementation pour atteindre des objectifs socio-économiques et environnementaux est également mis en question. Plusieurs groupes, dont les intérêts et motifs sont souvent différents, cherchent de nouvelles formules de gestion.

Depuis quelques années, on s'intéresse de plus en plus aux régimes communautaires de gestion des ressources, par opposition aux systèmes administrés par l'État. Dans les régimes communautaires, les décisions sont prises par les collectivités, à titre de gestionnaires autonomes, ou de concert avec les organismes gouvernementaux, selon diverses formules de partage des responsabilités. En ce qui concerne les zones côtières, ces décisions peuvent porter sur une gamme étendue de questions, dont la planification du développement de la région, la mise en valeur et la conservation, la répartition des ressources, et l'évaluation environnementale et socio-économique des projets de développement. Pays doté d'une étendue infinie de côtes le long des océans Pacifique, Atlantique et Arctique, des Grands lacs et d'autres eaux intérieures, le Canada renferme divers cadres dans lesquels les systèmes communautaires peuvent être utilisés avec efficacité pour gérer les ressources côtières.

En 1984 et 1986, le Groupe de travail sur l'écologie humaine des zones côtières du programme canadien sur L'Homme et la biosphère (MAB) a organisé des ateliers à la Dalhousie University à Halifax, en Nouvelle-Écosse, pour étudier la notion de la gestion communautaire des ressources et examiner son fonctionnement. Le Groupe a reconnu que pareils systèmes existaient au Canada, mais que la documentation à ce sujet était limitée. Les discussions ont surtout porté sur la description suivante (1981) formulée par l'un des membres du groupe, Fikret Berkes:

> Strictement parlant, [l'auto-réglementation] laisse à la collectivité tous les pouvoirs et responsabilités en matière de gestion... La gestion par des organismes de l'extérieur est l'approche opposée. Quelque part entre ces deux extrêmes, on retrouve de nombreux types d'approches hybrides caractérisées par différentes formules de partage de l'autorité et du contrôle, divers degrés de participation aux recherches scientifiques, et la responsabilité de prendre des décisions sur les plans de la répartition, l'utilisation et l'application (Figure 1):

FIGURE 1. GAMME DES APPROCHES EN MATIÈRE DE GESTION



En réalité, il n'y a souvent pas de distinction nette entre la gestion locale ou communautaire et la gestion extérieure ou gouvernementale. On trouve peu, s'il en est, d'exemples de l'une ou l'autre forme extrême parce que la plupart des collectivités d'aujourd'hui ne sont pas des entités économiquement ou socialement autonomes, isolées des grands systèmes nationaux et internationaux. Une approche reçoit de plus en plus d'attention récemment: la

gestion coopérative ou la co-gestion, en vertu de laquelle les collectivités ou les bandes autochtones partagent l'autorité en matière de gestion avec les services gouvernementaux (Pinkerton, 1989).

Bon nombre des cas très nets de gestion locale des ressources, en effet, concernent des collectivités autochtones. C'est sans doute que ces peuples réussissent à obtenir l'auto-réglementation en faisant valoir leurs droits aborigènes, leurs traités et les termes du règlement de leurs revendications, tandis que d'autres groupes doivent invoquer des droits moins bien définis. La nouvelle Charte canadienne des droits (1984) peut toutefois servir à tester le droit à la gestion locale par opposition à la gestion gouvernementale en ce qui concerne l'établissement de quotas et les restrictions d'utilisation fondées sur les limites géographiques. Les pêcheurs, par exemple, mettent en question certains règlements en avançant que le droit à la mobilité - garanti par la Charte des droits - peut être lésé par les règlements qui restreignent l'accès aux ressources selon des critères résidentiels ou sectoriels.

Il est devenu de plus en plus évident pour le Groupe de travail du MAB/Canada que sa compréhension de la question était sérieusement limitée par l'absence de tout inventaire systématique des projets et des études de gestion communautaire des ressources au Canada. Il était essentiel, à son avis, de connaître ce qui se faisait actuellement pour comprendre la nature et le fonctionnement de la gestion communautaire des ressources, tel que cette formule se pratique au Canada aujourd'hui. Le présent rapport est le fruit du travail de compilation qui a été fait à cette fin. Bien que les données qu'il renferme se limitent au Canada, le Groupe espère qu'il permettra aux régions et aux pays qui cherchent d'autres formules que la gestion gouvernementale des ressources de faire d'utiles comparaisons.

Le présent rapport répertorie les recherches et les projets de gestion communautaire des ressources dans six régions: la Nouvelle-Écosse, la zone côtière du Québec, la baie James, les Grands lacs/Ontario, la zone côtière de la Colombie-Britannique et le Denendeh (Arctique de l'Ouest). Il n'a pas été possible, tel que prévu, d'inclure toutes les régions côtières du Canada. Chaque section du rapport représente une tâche énorme et deux des collaborateurs (de la section générale sur l'Arctique et de la section sur Terre-Neuve) n'ont malheureusement pu mener à terme leur travail. La compilation des données sur ces régions, de même que sur le Nouveau-Brunswick et l'Île du Prince-Édouard, devra faire l'objet de recherches plus poussées.

Même si l'inventaire n'est pas complet, l'information qu'on y trouve est néanmoins très détaillée. Les auteurs de chacune des six sections ont fourni: 1) un aperçu des principales questions; 2) un inventaire descriptif des études et projets; 3) une bibliographie; et 4) une liste des chercheurs, des instituts, des organismes et des périodiques. Les directeurs de rédaction et les collaborateurs ont cherché à organiser l'information de façon qu'elle puisse être utile à divers groupes d'utilisateurs: ceux qui lisent le document pour avoir une vue d'ensemble de la question, ceux qui l'utilisent pour établir des comparaisons entre les régions, et ceux qui s'en servent comme guide de recherches plus poussées.

Toutes les entrées de l'inventaire descriptif sont organisées selon les mêmes catégories. Ces catégories, ainsi que leurs abréviations, sont les suivantes:

planification du développement régional (rdp)
mise en valeur et conservation des ressources/environnement (rec)
évaluation de l'environnement (ea)
accords sur les terres et les ressources aborigènes (aa)
répartition des ressources (ra)
conflits et règlement des conflits (ccr)
utilisation et gestion locales des ressources (ll)
facteurs externes influant sur la gestion locale (ef)

Les entrées figurent dans la catégorie la plus pertinente. Le titre est suivi, entre parenthèses, de l'abréviation des autres catégories de pertinence secondaire. Par exemple, dans la Section 1 sur la Nouvelle-Écosse, l'étude de C. Fraser intitulée "Groundfish Management by Property Rights" figure dans la catégorie "répartition des ressources". L'abréviation (ef) après le titre indique que la même entrée concerne aussi les "facteurs externes influant sur la gestion locale". L'Index, à la fin du rapport, est également organisé par matière pour faciliter l'accès à l'information par catégorie. Cette façon de procéder tient compte des rapports réciproques entre les différentes catégories et facilite les comparaisons entre régions.

Les noms et adresses des personnes avec qui communiquer au sujet des entrées de l'inventaire, de même que ceux de chercheurs et de gestionnaires de projets dans le même domaine, sont fournis pour ceux qui désirent plus d'information. Les bibliographies sont une autre importante source de renseignements sur les ouvrages de référence disponibles.

Ce rapport est un document de travail destiné à tous ceux qui s'intéressent à la gestion communautaire des ressources au Canada. Bien que l'information qu'il contient ne soit pas complète, il est à espérer que les travaux qui se feront par la suite au Canada permettront de le compléter et qu'il encouragera la réalisation d'ouvrages de même nature dans d'autres pays, afin que soit mieux compris le fonctionnement des systèmes communautaires de gestion des ressources dans le contexte international.

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NOTE EXPLICATIVE

LA VERSION ANGLAISE DE "LA GESTION COMMUNAUTAIRE DES RESSOURCES AU CANADA: INVENTAIRE DES RECHERCHES ET DES PROJETS" N'A PAS ÉTÉ TRADUITE EN FRANÇAIS; SEULS LE SOMMAIRE, LA PRÉFACE ET L'INTRODUCTION L'ONT ÉTÉ. NOUS VOUS PRIONS DE VOUS RÉFÉRER À LA VERSION ANGLAISE POUR L'INVENTAIRE LUI-MÊME, AINSI QUE POUR LA TABLE DES MATIÈRES.